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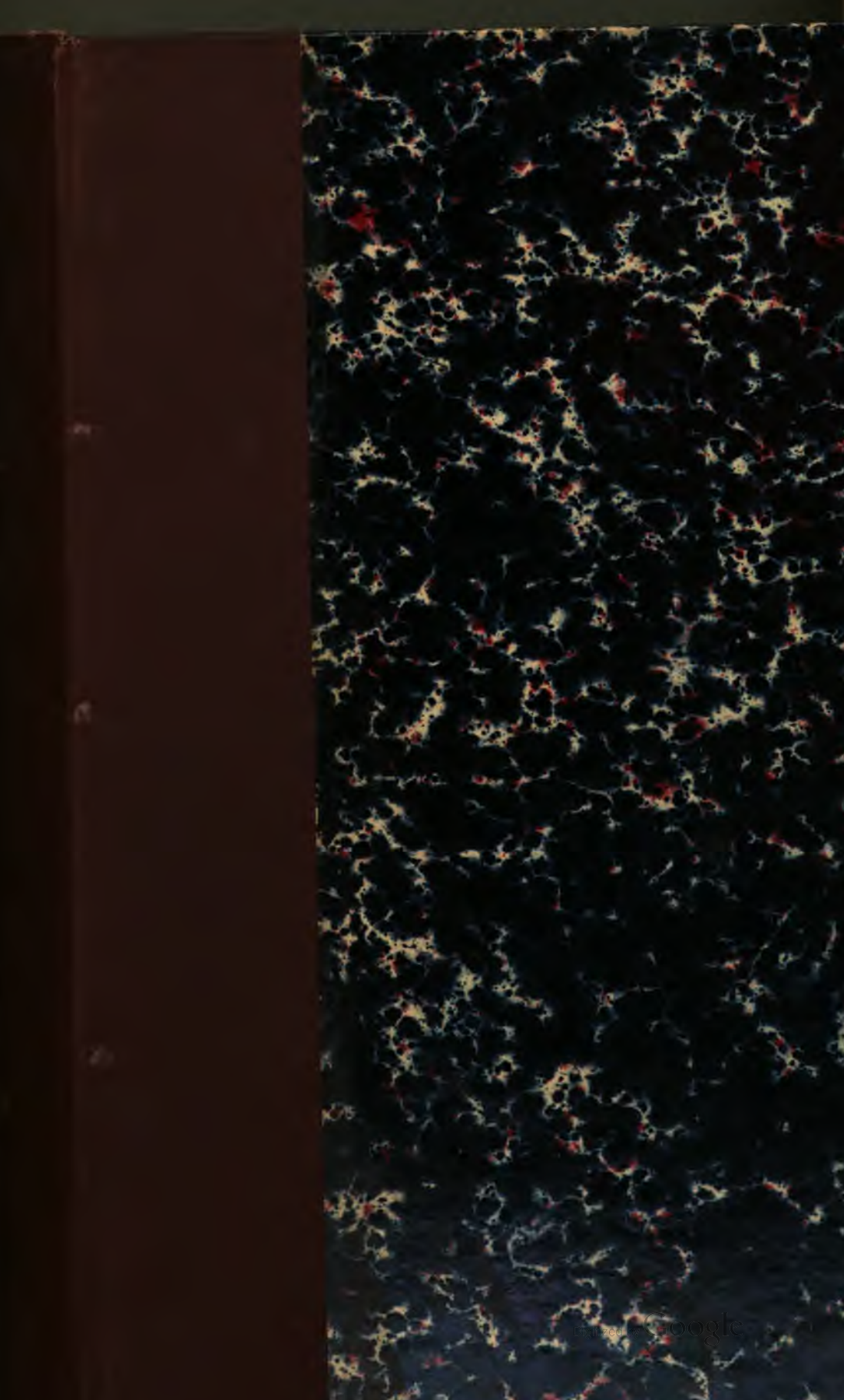

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UNITED STATES NATIONAL MUSEUM.

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OF THE

UNITED STATES NATIONAL MUSEUM.

No. 50.

THE BIRDS
OF
NORTH AND MIDDLE AMERICA.

BY
ROBERT RIDGWAY,
CURATOR, DIVISION OF BIRDS

PART IV.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1907.

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PART IV.

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THE BIRDS

OF

NORTH AND MIDDLE AMERICA:

A DESCRIPTIVE CATALOGUE

OF THE

HIGHER GROUPS, GENERA, SPECIES, AND SUBSPECIES OF BIRDS
KNOWN TO OCCUR IN NORTH AMERICA, FROM THE
ARCTIC LANDS TO THE ISTHMUS OF PANAMA,
THE WEST INDIES AND OTHER ISLANDS
OF THE CARIBBEAN SEA, AND THE
GALAPAGOS ARCHIPELAGO.

BY

ROBERT RIDGWAY
CURATOR, DIVISION OF BIRDS.

PART IV.

Family TURDIDÆ—Thrushes.
Family ZELEDONIIDÆ—Wren-Thrushes.
Family MIMIDÆ—Mockingbirds.
Family STURNIDÆ—Starlings.
Family PLOCEIDÆ—Weaver Birds.
Family ALAUDIDÆ—Larks.
Family OXYRUNCIDÆ—Sharp-bills.
Family TYRANNIDÆ—Tyrant Flycatchers.
Family PIPRIDÆ—Manakins.
Family COTINGIDÆ—Chatterers.

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PREFACE.

Unavoidable circumstances have delayed the completion of this volume until the present time.

Part I, issued in 1901, included the Family Fringillidæ (Finches) alone. Part II, issued in 1902, included the Families Tanagridæ (Tanagers), Icteridæ (Troupials), Cœrebidæ (Honey Creepers), and Mniotiltidæ (Wood Warblers). Part III, published in 1904, included the Motacillidæ (Wagtails and Pipits), Hirundinidæ (Swallows), Ampelidæ (Waxwings), Ptilogonatidæ (Silky Flycatchers), Dulidæ (Palm Chats), Vireonidæ (Vireos), Laniidæ (Shrikes), Corvidæ (Crows and Jays), Paridæ (Titmice), Sittidæ (Nuthatches), Certhiidæ (Creepers), Troglodytidæ (Wrens), Cinclidæ (Dippers), Chamæidæ (Wren-Tits), and Sylviidæ (Warblers). The present volume comprises the Turdidæ (Thrushes), Zeledoniidæ (Wren-Thrushes), Mimidæ (Mockingbirds), Sturnidæ (Starlings), Ploceidæ (Weaver Birds), Alaudidæ (Larks), Oxyruncidæ (Sharp-bills), Tyrannidæ (Tyrant Flycatchers), Pipridæ (Manakins), and Cotingidæ (Chatterers). Part V, which is partly done, includes the Formicariidæ (Ant Birds), Dendrocolaptidæ (Wood-Hewers), Furnariidæ (Oven Birds), Pteroptochidæ (Tapacolas), Trochilidæ (Humming Birds), Micropodidæ (Swifts), Caprimulgidæ (Goatsuckers), and Picidæ (Woodpeckers).

In the four volumes published there have been described 1,675 species and subspecies, or somewhat more than half the total number of North and Middle American Birds.

Acknowledgments are due for the loan of specimens used in the preparation of this volume to those individuals and public institutions mentioned in preceding volumes; also to the Carnegie Museum, of Pittsburg, Pennsylvania (through Mr. W. E. Clyde Todd, in charge of the bird collection); the Museum of Comparative Zoology, Cambridge, Massachusetts (through Mr. William Brewster); Dr. Louis B. Bishop, of New Haven, Connecticut; Mr. J. H. Fleming, of Toronto, Canada, and Mr. Arthur T. Wayne, of Mount Pleasant, South Carolina. The specimens from the Carnegie Museum were especially helpful, consisting of fine series of beautifully prepared specimens, mostly from Costa Rica.

It is a great pleasure to the author to have this opportunity of expressing his obligations for the privilege of studying the very com-

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plete collection (numbering some 15,000 specimens) of Costa Rican birds belonging to the National Museum of Costa Rica, at San Jose, where a commodious and convenient workroom and free access to the specimens were placed at his service; and it is also a great pleasure to refer to the indispensable assistance rendered by Don Anastasio Alfaro, Director of the Museum, and Don José C. Zeledón, of San Jose, during the author's six months' sojourn in that country collecting material for the present work.

The illustrations in this volume not previously published were mostly made by Mr. H. W. Hendley, of Washington, District of Columbia, and the measurements of specimens were made chiefly by Mr. J. H. Riley, of the Division of Birds.

ROBERT RIDGWAY.

MAY 20, 1907.

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[a] This genus is to be removed from the Turdidæ and placed in a separate family, Zeledoniidæ. (See Addenda, p. 885.)

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[a] This should be *Sialia sialis azurea* (Baird). (See Addenda, p. 887.)

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[a] Incorrect name, the correct name being *Myiarchus magister nelsoni* Ridgway.
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[a] Extralimital but included to complete representation of Mimine genera.

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THE BIRDS

OF

NORTH AND MIDDLE AMERICA.

By Robert Ridgway,
Curator, Division of Birds.

Part IV.

Family TURDIDÆ.

THE THRUSHES.

Slender-billed or small-billed, ten-primaried acutiplantar Oscines, having the acrotarsium undivided or "booted," except for lower portion, and the young in first plumage more or less distinctly spotted above as well as below,[a] even in species which are unspotted in the adult stage.

The preceding brief diagnosis is sufficient to distinguish the Turdidæ, as usually restricted, from the most nearly related groups of slender-billed, ten-primaried Oscines, with the single exception of the so-called family Muscicapidæ (Flycatchers), an exclusively Old World group, with which the Turdidæ are nearly if not quite connected by the Palæarctic genus *Pratincola* and related groups, the Hawaiian genus *Phæornis*, the genera of the American so-called Myadestinæ,[b] and other transitional forms. In fact, no satisfactory line

[a] In some of the Neotropical species of *Planesticus*, in several species of *Catharus*, and in the Antillean genera *Mimocichla* and *Haplocichla* the young are very indistinctly spotted, the spotting being confined on some of them to the under parts. In the young of *Zeledonia* there is no trace of spotting in any portion of the plumage, and the same may almost be said of the young of *Catharus gracilirostris*. The value of this character as diagnostic of the Turdidæ is therefore much less than has generally been supposed. (See remarks with reference to *Phainoptila*, under Family Ptilogonatidæ, on page 113, Part III, of the present work.)

[b] The genus *Myadestes* grades so completely into *Planesticus*, through genera of variously intermediate structure that, unless osteological or other anatomical characters may be found, it certainly cannot properly be considered as representing a group of subfamily rank.

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has ever been drawn between the two groups, and there is much reason for doubting whether their separation can be maintained. The only other groups to which the Turdidæ are intimately related are the Mimidæ (Mocking Thrushes) and Cinclidæ (Dippers). The former have often been included with the Turdidæ as a subfamily (Miminæ); but their more or less distinctly scutellate acrotarsium, relatively larger hallux, more rounded wing, with relatively longer outermost (tenth) primary, and weaker or fewer rictal bristles, will serve to separate them as a fairly well-defined family group.[a] The Cinclidæ are much too different to need close comparison with the Turdidæ, and may, therefore, be dismissed without further notice.[b]

The following osteological characters are said to be diagnostic of the Turdidæ as distinguished from the Mimidæ:—

Ante-orbital region wide; descending process of nasal wide, the angle formed by this process and the *pars plana* acute; maxillo-palatines of a modified claviform shape; costal process of sternum large, blunt, rhomboidal in outline; coracoid with a wide flange running halfway up the shaft; pelvis broad, flattened.[c]

Authors have varied greatly in the limits which they have assigned the family Turdidæ, as they have respectively defined it. Mr. Henry Seebohm, author of that volume of the "Catalogue of the Birds in the British Museum"[d] which contains the group includes in his "Family Turdidæ," besides the true thrushes, the warblers (Sylviidæ) as a "subfamily Sylviinæ," but excludes the "Myadestinæ," the Mimidæ, and the genus *Pratincola*. In a later special paper on the group[e] Doctor Stejneger has recast the limits of the family by adding to it the "Myadestinæ" (as suggested by Professor Baird in his "Review of American birds," 1866, p. 417), and the genus *Pratincola* (in accordance with the views of many previous authors), and removing the Sylviidæ. The family Turdidæ, therefore, as defined by Doctor Stejneger, whose views are here adopted, is equivalent to Mr. Seebohm's "Sub-

[a] It is true that not all the characters mentioned above as diagnostic of the Mimidæ invariably occur in the same genus; but one or another of them at least is always present to determine which of the two groups a given form should be referred to.

[b] See the present work, Part III, 1904, 675.

[c] Lucas, Proc. U. S. Nat. Mus., xi, 1888, 179. For osteological characters of Mimidæ and Troglodytidæ as compared with those of Turdidæ, see p. 181.

[d] Catalogue | of the | Passeriforms, | or | Perching Birds, | in the | Collection | of the | British Museum. | ——— | Cichlomorphæ: Part II. | Containing the family | Turdidæ | (Warblers and Thrushes). | By | Henry Seebohm. | London: | Printed by order of the Trustees. | 1881. |

(Constituting Volume V of the Catalogue of the Birds in the British Museum. Pp. xvi+426, pls. (hand colored) 18.)

[e] Remarks on the Systematic Arrangement of the American Turdidæ. By Leonhard Stejneger. Proc. U. S. Nat. Mus., 1882, (February 13, 1883), 449–483, with numerous cuts.

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family Turdinæ" plus the Myadestinæ of authors;[a] and I quite agree with Doctor Stejneger that "the definition of the group Turdidæ (= Seebohm's Turdinæ), given by Mr. Seebohm, seems to be a very proper one," and expresses "the only chief character which really indicates the relationship of the birds to be included in this family." As Doctor Stejneger remarks, "The peculiar spotted first plumage of the Turdidæ is a very striking feature, and its coincidence with booted tarsi very remarkable. A careful comparison with forms, which, without showing those characters, have at different times been referred to the Turdidæ, will convince us that the limits traced by Mr. Seebohm are the only reliable ones, and that the family thus defined is a very natural group, and, indeed, one of the best among the Passeres. It is only to be regretted that Mr. Seebohm did not include a few other forms which have the same peculiarities. I may especially allude to the Myadestinæ, the position of which will be discussed in full below. His concluding remarks on page 2 seem, however, to indicate that he himself has been aware of this fault."

Mr. Seebohm's definition of the characters of his "Subfamily Turdinæ" applies quite as well to the family Turdidæ in its revised sense, and is so concise in its reference to the diagnostic characters presented by the plumage of the young and peculiarities of the molt that a better one could scarcely be framed. It is as follows:

Turdinæ.—The young in first plumage differ from the adult in having the upper and the under parts spotted, whether that is or is not the case in the adult. Instead of two molts in the year there is only one, in autumn, the spring plumage being obtained by abrasion, or by casting the points of the feathers. Where any feathers have become much worn by the spring, they are replaced by new ones, but nothing approaching a complete molt is observable. Under these circumstances the young birds would have to carry their nestling plumage, or the greater part of it, until the second autumn. To avoid this they have a complete molt, from immature plumage to adult, in their first autumn before they migrate. Consequently the winter plumage of the young and adult is the same, and they can generally only be distinguished by an isolated feather here and there, generally on the wing-coverts or innermost secondaries, which have a pale tip as in the immature plumage. These peculiarities of molting appear in this group of birds to be always associated with a plain tarsus, except occasionally in very young birds of one or two species.

The Turdidæ comprise a great variety of forms which, though all possessing the characters given above as diagnostic of the group, present wide differences in general appearance, form and coloration, and habits. They may be arboreal, terrestrial, or saxicoline; frugivorous or insectivorous—though many kinds feed both upon fruits and berries and insects; plainly colored or of brilliant hues, though the latter is exceptional, the former being the rule. The family is remarkable for the number of excellent songsters which it contains, several

[a] To which I add the genera *Zeledonia* and *Phæornis*, the former unknown at the time Doctor Stejneger's article was published, the latter not mentioned by him.

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of them, as the Nightingale, the Song Thrush, and the Blackbird (*Planesticus merula*) being renowned in this respect, while the American Wood Thrushes (genus *Hylocichla*) and some of the Nightingale Thrushes (genus *Catharus*) and Solitaires (genus *Myadestes*) are scarcely less remarkable for the quality of their melody.

The Turdidæ, as a group, are nearly cosmopolitan, only parts of Polynesia being without representatives.[a] They are most numerously represented in the extensive area of the Palæarctic Region, which possesses many peculiar genera; but the family is well developed in America, especially in the mountainous districts extending from Mexico to the central Andes, the total number of species and subspecies now known to occur in America being about one hundred and fifty, belonging to nineteen genera.[b]

KEY TO THE AMERICAN GENERA OF TURDIDÆ.[c]

a. Bill relatively longer, narrower, and more compressed, its width at frontal antiæ little if any greater than its height at same point and decidedly less than length of gonys; the latter nearly if not quite equal to half the distance from point of mandible to malar apex (if less than the latter the tail even).

b. Wing less than five times as long as tarsus; middle toe (without claw) less than three-fourths as long as tarsus.

c. Middle toe (without claw) not more than three-fifths as long as tarsus, or else (*Cichlherminia*, part) tarsus nearly half as long as wing.

d. Bill relatively smaller and more slender, the exposed culmen not more (usually much less) than half as long as tarsus; wing less than 115 mm.

e. Tail much longer than combined length of tarsus and middle toe (without claw), the rectrices 12; wing at least two and a half times as long as tarsus; outermost (tenth) primary obvious, sometimes half as long as ninth (usually much less).

f. Exposed culmen longer than inner toe with claw; rump and basal portion of tail white.....**Saxicola** (p. 8)

ff. Exposed culmen shorter than inner toe with claw; rump not white; no white on base of tail, or else (*Calliope*, part) a scarlet patch on throat of male.

g. Mandible narrower basally, with gonys longer than the rami.

h. Tail more or less rounded, with rectrices broader, tapering rather than widening terminally, the shafts of lateral pair parallel or convergent terminally in closed tail.

i. Tarsus half as long as tail, or longer; plumage more or less varied, adult males having blue or scarlet on throat and a whitish superciliary stripe, adult females with the latter present but less developed.

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[a] It is possible that the New Zealand genus *Turnagra* does not belong here, in which case that country also would be unrepresented. Some doubt also attaches to the supposed Australian members of the group.

[b] In Dr. R. Bowdler Sharpe's "Hand-List of Birds" (iv, 1903, 111–184) the total number of species listed for the entire world (including subspecies, no distinction being made) is very nearly six hundred, referred to seventy-five genera. It is possible, however, that a few of the genera may eventually be excluded from the Turdidæ.

[c] Several allied Palæarctic genera and one Hawaiian genus are introduced into the key for the purpose of comparison with the most nearly related American forms.

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j. Outermost (tenth) primary smaller and narrower, about one-third as long as ninth; no bristly tips to frontal feathers; rictal bristles weaker; basal portion of tail rufous; adult males with blue on throat and chest.....**Cyanosylvia** (p. 14)

jj. Outermost (tenth) primary larger and broader, nearly half as long as ninth; bristle-like points to frontal feathers; rictal bristles stronger; base of tail without rufous (sometimes partly white); adult males with scarlet on throat.

Calliope (extralimital) [a]

ii. Tarsus much less than half as long as tail; plumage plain brown above (more rufescent on tail), dull white below, becoming pale grayish or brownish on chest and sides; no superciliary stripe; sexes alike.....**Luscinia** (extralimital) [b]

hh. Tail slightly emarginate, with rectrices narrow, slightly widening terminally, the lateral pair with shafts curved, diverging terminally in closed tail.....**Erythacus** (extralimital) [c]

gg. Mandible broader basally, with gonys not longer than rami.

h. Outermost (tenth) primary longer, decidedly (usually much) longer than primary coverts; ninth primary shorter than fourth.

Catharus (p. 18)

hh. Outermost (tenth) primary smaller, not longer (usually shorter) than primary coverts; ninth primary longer than fifth.

Hylocichla (p. 34)

ee. Tail not longer than combined length of tarsus and basal phalanx of middle toe, the rectrices 10; wing much less than two and a half times as long as tarsus; outermost (tenth) primary not obvious (very minute) .....**Zeledonia** (p. 69)

dd. Bill larger and stouter, the exposed culmen more than half as long as tarsus; wing more than 115 (usually more than 130) mm ...**Cichlherminia** (p. 72)

cc. Middle toe (without claw) more than three-fifths as long as tarsus.

d. Four primaries (eighth to fifth, inclusive,) with outer web sinuated.

e. Middle toe (without claw) less than two-thirds as long as tarsus, the latter much less than twice as long as exposed culmen; wing much less than three and a half times as long as tarsus; lateral rectrices broadly tipped with white (at least inner web), or else a white patch on innermost greater wing-coverts.

f. Tail decidedly longer than distance from bend of wing to end of secondaries (very nearly, sometimes quite, as long as wing); eyelids naked; tail more strongly rounded, the lateral rectrices extensively tipped with white on inner web; no white on wing.....**Mimocichla** (p. 78)

ff. Tail not longer than distance from bend of wing to end of secondaries; eyelids normally feathered; tail less strongly rounded (nearly even); no white on rectrices, but wings with an elongated white patch involving outer web of two innermost greater coverts.....**Haplocichla** (p. 87)

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[a] *Calliope* Gould, Birds of Europe, ii, 1836, pl. 118. (Type, *Turdus camtschatkensis* Gmelin= *Motacilla calliope* Pallas.) Not *Calliope* Ogilvy, Proc. Zool. Soc. Lond., 1836 (pub. Sept., 1837), 138 (a genus of mammals).

[b] *Luscinia* Forster, Synopt. Cat. Brit. Birds, 1817, 14. (Type, *Sylvia luscinia* Linnæus.)

[c] *Erythacus* Cuvier, Leçons d'Anat. Comp., i, 1800, table 2. (Type, *Motacilla rubecula* Linnæus.)

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ee. Middle toe (without claw) more than two-thirds as long as tarsus, or else (*Planesticus*, part) the latter more than twice as long as exposed culmen; wing more than three and a half (usually nearly four, sometimes nearly five) times as long as tarsus;[a] lateral rectrices without broad (if any) white tip, and no white on wing.

f. Tail even or slightly rounded or double-rounded.....**Planesticus** (p. 90)

ff. Tail distinctly emarginate.....**Cossyphopsis** (extralimital)[b]

dd. Not more than three primaries with outer web sinuated.

e. Maxillary tomium distinctly notched subterminally; nasal fossæ less extensively feathered, the nostrils entirely exposed; tenth (outermost) primary much shorter than primary coverts.

f. Three primaries (eighth to sixth) with outer webs sinuated; sexes alike in color; no whitish or buffy band across basal portion of inner webs of remiges.....**Turdus** (p. 125)

ff. Only two primaries (eighth and seventh) with outer webs sinuated; sexes radically different in color; a broad band of white or buff across basal portion of inner webs of primaries....**Cichloselys** (extralimital)[c]

ee. Maxillary tomium without distinct, if any, subterminal notch; nasal fossæ extensively feathered, the nostrils partly concealed; tenth (outermost) primary nearly as long as primary coverts. (Sexes different in color, both with wing "pattern," as in *Cichloselys*.).....**Ixoreus** (p. 129)

bb. Wing at least five times as long as tarsus; middle toe (without claw) at least three-fourths as long as tarsus, or else (*Grandala*) wing more than ten times as long as exposed culmen.

c. Tail double-rounded, the lateral rectrices not longer than middle pair; basal portion of primaries (both webs) and of inner webs of secondaries white; upper tail-coverts and tips of rectrices white; no blue....**Ridgwayia** (p. 135)

cc. Tail emarginate, the lateral rectrices longer than middle pair (usually longest); no white on wings nor tail; plumage partly blue.

d. Middle toe (without claw) three-fourths as long as tarsus; tail more than three times as long as tarsus; wing-tip decidedly less than three-fourths as long as tail; adult females not streaked nor with white "pattern" on inner webs of remiges .....**Sialia** (p. 136)

dd. Middle toe (without claw) only two-thirds as long as tarsus; tail not more than three times as long as tarsus; wing-tip nearly, sometimes quite, equal to three-fourths length of tail; adult female conspicuously streaked and with white "pattern" on remiges.....**Grandala** (extralimital)[d]

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[a] The wing is less than three and a half times as long as tarsus in *P. jamaicensis*, *P. nigrirostris*, and *P. rufiventris*.

[b] *Cossyphopsis* Stejneger, Proc. U. S. Nat. Mus., v, Feb. 13, 1883, 478. (Type *Turdus reevei* Lawrence.) (Western Ecuador.)

I am doubtful as to the validity of this supposed genus, since all the characters originally ascribed to it, with the single exception of that given above, prove to be shared by certain species of *Planesticus*.

[c] *Cichloselys* Bonaparte, Compt. Rend., xxxviii, 1854, 5, 10. (Type, by elimination, *Turdus sibiricus* Pallas. See Stejneger, Proc. U. S. Nat. Mus., xv, 1892, 317, footnote.)

[d] *Grandala* Hodgson, Journ. Asiat. Soc. Bengal, xii, pt. 1, 1843, 447; xxiv, 1855, 577. (Type, *G. cœlicolor* Hodgson.)

This genus is exceedingly distinct from *Sialia*, with which Mr. Seebohm merged it. (Cat. Birds Brit. Mus., v, 1881, 327, 328.) The female, according to Mr. Seebohm's ideas as to the paramount value of color characters in the Turdidæ (see p. viii of the volume cited) should go in his "genus" *Geocichla*

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aa. Bill relatively short, broad and depressed basally, its width at frontal antiæ decidedly more than its height at same point, and nearly if not quite equal to length of gonys; the latter decidedly less than half the distance from point of mandible to malar apex.

b. Legs shorter, the middle toe (without claw) more than two-thirds as long as tarsus, the latter much less than one-third as long as wing.

c. Bill stouter (thrush-like), less depressed basally, its width at frontal antiæ slightly less than length of gonys; inner webs of remiges without light-colored "pattern."

d. Outermost (tenth) primary smaller, not more than one-third as long as ninth; tail emarginate or double-rounded; mandible relatively more slender, with gonydeal angle less prominent....**Platycichla** (extralimital) [a]

dd. Outermost (tenth) primary larger, two-fifths as long as ninth; tail strongly double-rounded, with lateral rectrices shorter than middle pair; mandible relatively stouter (deeper) with gonydeal angle more prominent.

Cichlopsis (extralimital) [b]

cc. Bill weaker (more "flycatcher"-like), much depressed at base, its width at frontal antiæ equal to or greater than length of gonys; inner webs of remiges with a broad white or buff basal area, or "pattern."

d. Bill longer, the exposed culmen decidedly longer than outer toe (without claw); acrotarsium divided ("scutellate") on inner side.

Entomodestes (extralimital) [c]

dd. Bill shorter, the exposed culmen little, if any, longer than inner toe (without claw); acrotarsium undivided.....**Myadestes** (p. 170)

bb. Legs longer, the middle toe (without claw) not more than three-fifths as long as tarsus, the latter nearly (sometimes more than) one-third as long as wing.

Phæornis (extralimital) [d]

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[a] ***Platycichla*** Baird, Review Am. Birds, June, 1864, 32 (more fully characterized on p. 436). (Type, *P. brevipes* Baird, =*Turdus flavipes* Vieillot.) The species of this genus are all South American. Besides those usually referred to it are *Platycichla ranthoscelus* (Jardine) and *Platycichla leucops* (Taczanowski), hitherto referred to *Turdus* or *Merula*=*Planesticus*.

[b] (?) ***Turdampelis*** Lesson, L'Écho du Monde Sav., 1844, 156. (Type, *T. lanioides* Lesson, =??).—***Cichlopsis*** Cabanis, Mus. Hein., i, 1850, 54. (Type, *C. leucogenys* Cabanis).—***Myiocichla*** Bonaparte, Compt. Rend., xxxviii, 1854, 6; Notes Orn. Coll. Delattre, 1854, 30. (Type, *M. ochrata* Bonaparte, =*Cichlopsis leucogenys* Cabanis.)

Not having at hand a specimen of *Cichlopsis leucogenys* Cabanis for comparison with Lesson's description of his *Turdampelis lanioides* I can not be sure whether the two are identical or not. According to descriptions of the former, however, they seem to be very different; and taking into consideration Hartlaub's statement (Rev. Zool., 1846, 3) that Lesson's bird is *Aulia hypopyrrha* (Vieillot) I think the name *Cichlopsis* Cabanis should be used for the genus until it is clearly shown that some other name has indisputable claim to replace it.

[c] ***Entomodestes*** Stejneger, Proc. U. S. Nat. Mus., v, sig. 29, Feb. 23, 1883, 456, footnote. (Type, *Ptilogonys leucotis* Tschudi.) (Peru.)

[d] ***Phæornis*** Sclater, Ibis, July, 1859, 327, in text. (Type, *Muscicapa obscura* Gmelin.) (Peculiar to the Hawaiian Islands.)

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Genus SAXICOLA Bechstein.

Saxicola BECHSTEIN, Orn. Taschenb., 1802, 216. (Type, *Motacilla œnanthe* Linnæus.)

Vitiflora LEACH, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 21. (Type, *Motacilla œnanthe* Linnæus.)

Œnanthe VIEILLOT, Analyse, 1816, 43. (Type, *Turdus leucurus* Gmelin.)

Ænanthe (emendation) VIEILLOT, Faune Franç., 1823, 31.

Campicola SWAINSON, Zool. Journ., iii, 1827, 171. (Type, *Motacilla pileata* Gmelin.)

Dromolæa CABANIS, Mus. Hein., i, 1850, 9. (Type, *Œnanthe monticola* Vieillot.)

Lucotoa PAUL DE WÜRT., fide Brehm, Vögelf., p. 225 (1855). (Seebohm.) (Type, *Vitiflora leucopygia* Brehm?)

Small long-winged, long-legged, terrestrial and saxicoline Turdidæ with wing-tip longer than tarsus, outermost (tenth) primary shorter than primary coverts, exposed culmen shorter than middle toe (without claw), and with basal portion of tail, together with upper tail-coverts, white.

Bill small and slender, much shorter than head; exposed culmen decidedly shorter than middle toe (without claw) but longer than inner toe (without claw), more or less concave immediately in front of nasal fossæ, the mesorhinal portion more or less strongly elevated basally; gonys straight or very faintly convex, rising obliquely toward tip at a slightly divergent angle from lower edge of mandibular rami, the latter much shorter than gonys; maxillary tomium faintly convex basally, faintly concave subterminally, distinctly notched near end. Nostril guttate, pointed anteriorly, overhung by broad membrane, posteriorly nearly or quite in contact with feathering of frontal antiæ. Rictal bristles distinct; no distinct decumbent post-nasal bristles; latero-frontal feathers with distinct bristle-like tips, the more anterior ones projecting forward and downward over nostril. Wing very long and pointed (about three and a half to four times as long as tarsus), the longest primaries exceeding secondaries by more than length of tarsus; outermost (tenth) primary small, sometimes shorter, sometimes slightly longer than primary coverts; ninth primary sometimes longest or equal to longest, sometimes shorter than sixth. Tail more or less shorter than distance from bend of wing to end of secondaries, about twice as long as tarsus to much more than twice as long, even or more or less distinctly emarginate. Tarsus long and slender, not more (usually much less) than half as long as tail, much less than one-third as long as wing (sometimes only one-fourth as long), the acrotarsium booted except on lower portion; middle toe (without claw) decidedly less to very slightly more than three-fifths as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly but decidedly beyond; hallux slightly shorter than inner toe, its claw nearly as long as the digit—all the claws normally curved, but slender and very acute;

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basal phalanx of middle toe united for more than half its length to outer toe, for about one-third to inner toe.[a]

Coloration.—Basal portion of tail and whole of tail-coverts white; adult males gray above with black on side of head, wings, and tail, and whitish beneath, or variously "pied" with black and white, buff, or cinnamon; females and young brownish above, buffy beneath, with white on tail, etc., as in adult males.

Nidification.—Nest placed in cavities among rocks or in walls or on ground, composed of dry grass, hair, feathers, etc.; eggs (5–6) bluish, speckled with reddish brown.

Range.—Palæarctic Region and arid portions of Ethiopian Region; one Palæarctic species (in two subspecific forms) occurring in northern North America. (Species very numerous.)

SAXICOLA ŒNANTHE ŒNANTHE (Linnæus).

WHEATEAR.

Adult male in spring and summer.—Above plain light slate-gray or deep ash gray,[b] changing abruptly to white on upper tail-coverts and passing more gradually into white on forehead (more or less broadly) and superciliary region; wings black, with narrow terminal margins of whitish to greater wing-coverts and secondaries (these sometimes obsolete); tail white basally, the middle pair of rectrices mostly black (for all of their exposed and much of their concealed portions), the rest with about the terminal third abruptly black; loral, suborbital, and auricular regions black, producing a conspicuous elongated patch or broad stripe on side of head; malar region, chin, throat, and chest pinkish buff or ochraceous-buff, more or less deep,[c] the remaining under parts white, more or less tinged with buff; bill, legs, and feet black; iris brown.

Adult female in spring and summer.—Similar in pattern of coloration to the male, but gray of upper parts much duller and browner (hair brown to broccoli brown), wings and terminal portion of tail dusky grayish brown instead of black, no black patch or stripe on side of head, white of under parts duller and more buffy, and anterior under parts more brownish buffy or cinnamon.

Young (and adults?) in autumn and winter.—Similar to the adult female in summer plumage, but browner above (between broccoli brown and dark isabella color), wing-coverts and secondaries broadly

[a] The above characters are taken from *S. œnanthe*, *S. montana*, *S. lugens*, *S. stapazina*, and *S. oreophila*. These differ from one another to a greater or less extent in structural details, principally the relation of length of wing, tail, tarsus, and middle toe and wing-formula, but I would consider them as congeneric. Possibly certain of the numerous species usually referred to the genus may require removal, but the present work has nothing to do with them.

[b] Between slate-gray and gray no. 6 of Ridgway's Nomenclature of Colors.

[c] The color fades toward midsummer.

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margined with buffy or cinnamon, primary coverts and primaries edged and terminally margined with pale buffy grayish or dull whitish, under parts pinkish buff, deepening on chest, sides of breast, and lower throat into cinnamon-buff or buffy cinnamon, and bill dusky horn color.

Young.—"Young in first plumage resemble the female, but have obscure transverse terminal dark bars and pale centers to most of the feathers of the upper and under parts."[a]

Adult male.—Length (skins), 132–161 (147); wing, 93–101 (96.1); tail, 50–59 (55.2); exposed culmen, 12–15 (13.9); tarsus, 24.5–29 (27.2); middle toe, 13.5–15.5 (14.6).[b]

Adult female.—Length (skins), 146–152 (148); wing, 90–94 (92.6); tail, 49.5–56.5 (52.1); exposed culmen, 12.5–14 (13.3); tarsus, 25.5–27 (26.2); middle toe, 13–14.5 (14).[c]

Breeding in northern Europe and Asia, from the British Islands, the Scandinavian peninsula, parts of central Europe and high mountains of southern Europe to northern Alaska; migrating southward in winter to India and eastern Africa.

[*Motacilla*] *œnanthe* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 186 (Europe); 12th ed., i, 1766, 332.—GMELIN, Syst. Nat., i, 1788, 966.

Motacilla œnanthe BECHSTEIN, Naturg. Deutschl., iv, 1795, 640.

[*Sylvia*] *œnanthe* LATHAM, Index Orn., ii, 1790, 529.

Sylvia œnanthe TEMMINCK, Man. d'Orn., 1815, 135.

Saxicola œnanthe BECHSTEIN, Orn. Taschenb., i, 1802, 217.—GOULD, Birds Eur., ii, 1837, pl. 90; Birds Gt. Brit., ii, 1862, pl. 65.—KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lix, 192.—DEGLAND, Orn. Eur., i, 1849, 482; 2d ed., i, 1867, 450.—MIDDENDORFF, Reis. Sibir., Zool., ii, pt. 2, 1853, 174.—SUNDEVALL, Svensk. Fogl., 1856, 54.—HARTLAUB, Orn. W.-Afr., 1857, 64 (Senegal).—LINDERMAYER, Vög. Griechenl., 1860, 110.—NEWTON, ed. Blasius' List Birds Eur., 1862, 10, part; ed. Yarrell's Hist. Brit. Birds, i, 1873, 347, part.—RADDE, Reis. Sibir., Vög., 1863, 244.—COUES, Check List, 1873, no. 15, part; 2d ed., 1882, no. 26, part.—HEUGLIN, Orn. N. Ost.-Afr., i, 1869, 347.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 276 (St. Michael, Alaska).—FRITSCH,

[a] Seebohm, Cat. Birds Brit. Mus., v, 1881, 393.

[b] Sixteen specimens.

[c] Seven specimens.

Alaskan specimens are slightly larger than those from Europe, their respective averages being as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Europe	94.5	55	13.7	27.1	14.7
Six adult males from Alaska	98.7	55.4	12.4	27.4	14.3
FEMALES.					
Three adult females from Europe	91.8	51.7	13.5	26.2	14.2
Four adult females from Alaska	93.1	52.4	13.1	26.2	13.9

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Vög. Eur., 1870, 193.—TRISTRAM, Ibis, 1871, 231 (Alaska, Lapland; crit.).—HARTING, Handb. Brit. Birds, 1872, 13.—BLANFORD and DRESSER, Proc. Zool. Soc. Lond., 1874, 218, part (monogr.).—TACZANOWSKI, Journ. für Orn., 1872, 435 (e. Siberia).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 60, part, pl. 5, fig. 6.—DRESSER, Ibis, 1875, 335 (Turkestan, breeding at 8,500 to 10,000 ft.).—DRESSER, Birds Europe, ii, 1881, 187.—SEEBOHM and HARVIE BROWN, Ibis, 1876, 215 (lower Petchora, Russia).—COLLETT, Nyt. Mag. Naturvid., xxiii, 1877, 103; xxvi, 1881, 269; xxxv, 1893, 13 (Norway).—CLIFTON, Ibis, 1877, 256 (crit.).—DAVID and OUSTALET, Ois-Chine, 1877, 165.—SEEBOHM, Ibis, 1879, 8 (Siberia); 1882, 211 (Astrakhan, breeding), 375. (Archangel, Russia); 1888, 346 (Great Liakoff I., Siberia); Cat. Birds Brit. Mus., v, 1881, 391, part; Hist. Brit. Birds and Eggs, i, 1883, 301.—SCULLY, Ibis, 1881, 444 (Gilgit, n. India; crit.).—NELSON, Bull. Nutt. Orn. Club, vi, 1881, 5 (St. Michael); Cruise "Corwin" in 1881 (1883), 59 (St. Michael and King I., Alaska); Rep. Nat. Hist. Coll. Alaska, 1887, 221.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 21, part.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 146 (Cape Lisburne, Alaska, Aug. 21; Port Clarence, Sept. 6; Chamisso I., Kotzebue Sound, Aug. 31).—DIXON, Ibis, 1885, 80 (St. Kilda).—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 349 (Tchuctchi Peninsula); Auk, xiii, 1901, 186 (measurements); Proc. U. S. Nat. Mus., xxiii, 1901, 478, 479, 480 (synonymy; list of specimens).—MURDOCH, Rep. Internat. Polar Exped. Point Barrow, 1885, 104 (Point Barrow, Alaska, breeding).—BEMGE, Beitr. Keuntn. Russ. Reich. (3), i, 1885, —.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 765, part.—PALMÉN, Vegaexp. Vet. Iakt., v, 1887, 260 (Pitlekaj and Jinretlen, Tchuctchi Peninsula).—TURNER, Contr. Orn. Alaska, 1886, 196.—SAUNDERS, Illustr. Man. Brit. Birds, 1889, 20.—MEADE-WALDO, Ibis, 1893, 188 (Tenerife, Canary Islands).—BLAGG, Ibis, 1893, 351 (Shetland Islands, breeding).—PEARSON and BIDWELL, Ibis, 1894, 229 (n. Norway, breeding).—WALLIS, Ibis, 1895, 66 (centr. Pyrenees, breeding; descr. eggs).—PEARSON, Ibis, 1896, 207 (Russian Lapland); 1898, 191 (Waigats, n. e. Russia).—POPHAM, Ibis, 1897, 92 (Yeneseisk and Golchika, Siberia); 1898, 495 (do., breeding).—GRANT, Novit. Zool., vii, 1900, 255 (s. Arabia).—BISHOP, North Am. Fauna, no. 19, 1900, 96 (Circle, Yukon Terr.; mo. of Aphoon R., Alaska).—GRINNELL (J.), Condor, iii, 1901, 20 (St. Paul I., Prybilofs, 1 spec., Aug. 29).—McGREGOR, Condor, iv, 1902, 144 (Castle Rock and Signal Doris, Alaska, July, Aug.).—DAVIES, Ibis, 1905, 70 (upper Muonio R., Scandinavia, breeding).

S[axicola] œnanthe GRAY, Gen. Birds, i, 1846, 178.—CABANIS, Mus. Hein., i, 1850, 19.—COUES, Key N. Am. Birds, 2d ed., 1884, 256, part; 5th ed., i, 1903, 256, part.—RIDGWAY, Man. N. Am. Birds, 1887, 580, part.

[Saxicola] œnanthe BONAPARTE, Consp. Av., i, 1850, 303.—GRAY, Hand-list, i, 1869, 224, no. 3205, part.—COUES, Key N. Am. Birds, 1872, 76, part.—SHARPE, Hand-list, iv, 1903, 175.

Saxicola oenanthe oenanthe SCHALOW, Vögel der Arktis, 1904, 269.

Vitiflora œnanthe LEACH, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 21.—BOIE, Isis, 1822, 552.

Saxicola ænanthe DRESSER, Birds Europe, ii, 1881, pl. 21.

Motacilla vitiflora PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 472 (new name for *Motacilla œnanthe* Linnæus).

Œnanthe vitiflora FORSTER, Synopt. Cat. Brit. Birds, 1817, 54.

Œnanthe cinerea VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 418 (new name for *Motacilla œnanthe* Linnæus).

Vitiflora cinerea BREHM, Vög. Deutschl., 1831, 405.

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Saxicola œnanthe cinerea BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.
Vitiflora septentrionalis BREHM, Vög. Deutschl., 1831, 403.
Saxicola œnanthe septentrionalis BREHM (A. E.), Verz. Samml. C L. Brehm, 1866, 5.
Vitiflora grisea BREHM, Vög. Deutschl., 1831, 405.
Saxicola œnanthe grisea BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.
Saxicola ostrata HEMPRICH and EHRENBERG, Symb. Phys., Aves, 1833, fol. *aa*.
[*Saxicola*] *ostrata* GRAY, Hand-list, i, 1869, 225, no. 3232.
Saxicola libanotica HEMPRICH and EHRENBERG, Symb. Phys., Aves, 1833, fol. *bb*.
[*Saxicola*] *libanotica* GRAY, Hand-list, i, 1869, 225, no. 3220.
Saxicola œnanthoides VIGORS, Zool. Voy. "Blossom," 1839, 19 (no locality given, but said to be from northwest coast of North America).—BAIRD, in Stansbury's Rep. Great Salt Lake 1853, 329, part.—CASSIN, Illustr. Birds Cal., Tex., etc., 1854, 208, part.
S[*axicola*] *œnanthoides* GRAY, Gen. Birds, i, 1846, 179.
[*Saxicola*] *œnanthoides* GRAY, Hand-list, i, 1869, 225, no. 3222.
(?) *Vitiflora major* BREHM, Vogelf., 1855, 224.
Saxicola œnanthe alpestris BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.
Saxicola œnanthe melanoptera BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.
Saxicola œnanthe maritima BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.
Saxicola œnanthe crassirostris BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.
Saxicola œnanthe macrohynchos BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 5.

SAXICOLA ŒNANTHE LEUCORHOA (Vieillot).

GREENLAND WHEATEAR.

Similar to *S. œ. œnanthe*, but decidedly larger; autumnal and winter specimens with under parts more strongly cinnamomeous.

Adult male.—Length (skins), 161–167 (165); wing, 100.5–106.5 (103.8); tail, 54.5–60.5 (58.3); exposed culmen, 13–15 (13.9); tarsus, 27–30.5 (28.9); middle toe, 15.5–16 (15.8).[a]

Adult female.—Length (skins), 145–165 (156); wing, 97–103.5 (99); tail, 53–58 (56.1); exposed culmen, 13.5–14.5 (14.1); tarsus, 27.5–29 (28.4); middle toe, 14.5–15.5 (15).[b]

Breeding in Greenland and Iceland and in northeastern North America from Arctic islands on western side of Davis Strait to Labrador (Nachvak, etc.)—probably also to Quebec (Godbout); during migration southward, sporadically, to New Brunswick, Ontario

[a] Six specimens.

[b] Seven specimens.

North American and European specimens compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Greenland and Labrador	104.3	57.5	13.5	28.2	15.8
Three adult males from Europe	103.3	59.2	14.3	29.7	15.7
FEMALES.					
Two adult females from Greenland and Labrador	98	57.2	14	28.2	15.2
Five adult females from Europe	99.4	55.7	14.1	28.5	14.9

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(Beaumaris, Sept. 24, 1896), New York (Seneca County, Sept. 9, 1872; Long Island), and Bermudas[a]—regularly, *via* the British Islands, Faroes, Shetlands, France, and Canary Islands to western Africa (Senegal, Gambia, etc.); accidental in Cuba (Santiago, Oct. 16, 1903).

Motacilla œnanthe (not of Linnæus) FABRICIUS, Fauna Grœnl., 1780, 122.—MOHR, Isl. Naturh., 1786, 52 (Iceland).

Saxicola œnanthe FABER, Prodr. Isl. Orn., 1822, 18 (Iceland).—HOLBOELL, Naturhist. Tiddskr., iv, 1843, 392 (Greenland); Orn. Grœnl. (ed. Paulsen), 1846, 23.—JARDINE, Contr. Orn., 1848, 86 (Bermudas, accidental).—HURDIS, in Jardine's Contr. Orn., 1850, 13 (Bermudas, 1 spec., Oct. 5, 1846).—REINHARDT, Journ. für Orn., 1854, 439 (Greenland); Ibis, 1861, 5 (do.).—KRUEPER, Naumannia, 1857, pt. 2, 25 (Iceland).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 220, part (Greenland); Cat. N. Am. Birds, 1859, no. 157, part; Review Am. Birds, 1864, 61, part (Godthaab, Greenland; Groswater Bay, Labrador; Quebec).—MARTENS, Journ. für Orn., 1859, 213 (Bermuda).—JONES, Naturalist in Bermuda, 1859, 28.—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 218 (Groswater Bay, Labrador); Check List, 1873, no. 15, part; 2d ed., 1882, no. 26, part.—NEWTON, in Baring-Gould's Iceland, 1863, 409; Arctic Man., 1875, 98 (Greenland).—BLANFORD and DRESSER, Proc. Zool. Soc. Lond., 1874, 218, part (monogr.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 60, part; iii, 1874, 501 (Seneca Co., New York, 1 spec., Sept. 9, 1872).—FINSCH, Zweite Deutsche Nordpolarf., ii, 1874, 183 (Shannon I., e. Greenland); Abh. Nat. Ver. Bremen, 1874, 104 (Greenland); 1877, 352 (do.).—FEILDEN, Ibis, 1877, 403 (Fort Foulke).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 73 (Cumberland Sound; Disco I., Greenland).—CLIFTON, Ibis, 1879, 256 (England).—BOARDMAN, Bull. Nutt. Orn. Club, v, 1880, 115 (near Calais, Maine, 1 spec., Aug. 25, 1879).—(?) MINOT, Bull. Nutt. Orn. Club, v, 1880, 224 (Boulder, Colorado, 1 spec., May 14, 1880).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 391, part.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 21, part.—CABANIS, Journ. für Orn., 1882, 233 (Labrador; Greenland).—MERRIAM, Auk, i, 1884, 295 (near Point de Monts, Quebec, 1 spec., May 18, 1884); ii, 1885, 113 (Godbout, Quebec, 1 spec., Sept. 19, 1884), 305 (Godbout, Quebec, May, June, Sept.; probably breeding).—ALLEN, Auk, iii, 1886, 490 (Long Island, New York; date unknown).—FISCHER and PELZELN, Mitth. Orn. Ver. Wien, x, 1886, 195 (Jan Mayen I.); Zoologist, 1890, 8.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 765, part.—GREELY, Rep. Proc. U. S. Exp. Lady Franklin Bay, ii, 1888, 27 (Smith Sound).—(?) KOHN, Auk, vi, 1889, 76 (New Orleans, Louisiana, 1 spec., Sept. 12, 1888).—CHAMBERLAIN, Auk, vi, 1889, 297 (s. Greenland, Apr. to Oct.; nesting habits).—COMEAU, Auk, vii, 1890, 294 (near Godbout, Quebec, probably breeding).—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 152 (Disco I., Greenland).—DUTCHER, Auk, x, 1893, 31 (Jamaica, Long Island, 1 spec., 1885).—ANDERSEN, Vid. Med. Nat. For. Copenhagen, 1898, 391 (Faroe Islands).—WINGE, Grœnland's Fugle, 1898, 284.—BIGELOW, Auk, xix, 1902, 31 (Nachvak, Labrador, breeding).—KNIGHT, xviii, 1901, 275 (alleged Maine records pertain to New Brunswick).—FLEMING, Auk, xviii, 1901, 45 (Beaumaris, n. Ontario, 1 spec., Sept. 24, 1896).

[*Saxicola*] *œnanthe* COUES, Key N. Am. Birds, 1872, 76, part.

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[a] Additional probable records are Colorado (Boulder County, May 14, 1880) and Louisiana (New Orleans, Sept. 12, 1888); but these, especially the former, may possibly belong to *S. œnanthe œnanthe*. More northern localities are Felix Harbor, Gulf of Boothia, and Albany River, cited by Preble, but dates of occurrence unknown.

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S[axicola] œnanthe COUES, Key N. Am. Birds, 2d ed., 1884, 256, part; 5th ed., i, 1903, 256, part.—RIDGWAY, Man. N. Am. Birds, 1887, 580, part.

[*Motacilla*] *leucorhoa* GMELIN, Syst. Nat., i, pt. 2, 1788, 966 (Senegal; based on *Motteux de Senegal* Buffon, Hist. Nat. Ois., v, 249, etc.

Œnanthe leucorhoa VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 428 (Senegal).

Saxicola leucorhoa HARTLAUB, Syst. Orn. Westafr., 1857, 64.

Saxicola leucothoa (typ. error) LESSON, Traité d'Orn., i, 1831, 413.

Saxicola leucorrhoa HARTLAUB, Journ. für Orn., 1854, 19.

[*Saxicola*] *leucorrhoa* SHARPE, Hand-list, iv, 1903, 176.

Saxicola œnanthe leucorhoa STEJNEGER, Proc. U. S. Nat. Mus., xxiii, no. 1220, Feb. 25, 1901, 476, 479, 480 (crit.; synonymy; list of specimens); Auk, xviii, Apr., 1901, 186 (Gambia, w. Africa).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xviii, 1901, 309 (check list no. 765*a*).—PREBLE, North Am. Fauna, no. 22, 1902, 131 (Felix Harbor, Gulf of Boothia; Albany R.).—ROBINSON, Auk, xxii, 1905, 315 (Santiago, Cuba, 1 spec., Oct. 16, 1903).

Saxicola œnanthe leucorrhoa SCHALOW, Vögel der Arktis, 1904, 271.

Saxicola œnanthoides (not of Vigors) BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 329, part (Labrador).—CASSIN, Illustr. Birds Col., Tex., etc., 1854, 208, part, pl. 34 ("Nova Scotia," i. e., Labrador).—GAILLARD, Contr. Faun. Orn. Eur. Occ., pt. xxix, 1891, 85 (Greenland; Labrador).

(?) *Saxicola isabellina* (not of Rüppell) MEADE-WALDO, Ibis, 1889, 515 (Canary Islands).

Genus CYANOSYLVIA Brehm.

Cyano-sylvia BREHM, Isis, 1828, 920. (Type, *Motacilla suecica* Linnæus.)

Cyanecula BREHM, Isis, 1828, 1280. (Type, *Motacilla suecica* Linnæus.)

Pandicilla BLYTH, in Rennie's Field Nat., i, 1833, 291. (Type, *Motacilla suecica* Linnæus.)

Cyanegula (emendation) BOIE, Journ. für Orn., 1857, 166.

Cyaneula (emendation ?) JERDON, Birds India, ii, 1863, 152.

Small slender-billed, long-legged terrestrial Turdidæ with tarsus more than one-third as long as wing and more than half as long as tail, outermost primary slightly longer than primary coverts, ninth primary shorter than fifth, and basal portion of tail rufous, the adult male with throat and chest blue with or without a white or chestnut central spot.

Bill about half as long as head, very slender; exposed culmen about as long as outer toe (without claw), slightly concave immediately above anterior end of nasal fossæ, the mesorhinal portion elevated basally; gonys faintly convex, ascending terminally, about twice as long as mandibular rami; maxillary tomium faintly convex subbasally, then faintly concave, without distinct subterminal notch. Nostril narrowly ovate, posteriorly in contact with feathering of frontal antiæ, overhung by rather broad membrane. Rictal bristles distinct, though small; loral feathers with distinct though small bristle-like tips, the more anterior ones decumbent over edge of maxilla. Wing moderate, rounded, less than three times as long as tarsus; outermost (tenth) primary small, but longer than primary coverts; ninth primary shorter than fifth, the eighth and seventh longest (sixth but little shorter); longest primaries exceeding longest

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secondaries by less than length of middle toe (without claw). Tail shorter than distance from bend of wing to end of secondaries, less than twice as long as tarsus, slightly rounded. Tarsus long and slender (more than one-third as long as wing, more than half as long as tail), the acrotarsium booted on both sides; middle toe (without claw) about three-fifths as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux slightly shorter than inner toe; basal phalanx of middle toe united to outer toe for more than half its length, to inner toe for less than half; claws rather small and weakly curved, that of the hallux shorter than its digit.

Coloration.—Above plain grayish brown, with basal half of tail rufous; adult males with throat and chest blue, with or without a central spot of white or rufous; young dark sooty above and on chest, broken by streaks of pale yellowish, the belly, etc., whitish with feathers margined with sooty, the under tail-coverts pale buff.

Nidification.—Nest in cavity of a hummock on marshy ground, composed of dry grass, fine rootlets, etc., lined with hair and other soft materials; eggs (4–6) greenish blue, speckled with reddish brown.

Range.—Palæarctic Region, breeding northward; south to northern Africa, India, Burma, southern China, etc.; one species occurring in western Alaska. (Four species or subspecies.)

CYANOSYLVIA SUECICA (Linnæus).

RED-SPOTTED BLUETHROAT.

Adult male in spring and summer.—Above plain grayish brown (deep hair brown), the pileum with feathers more or less distinctly darker centrally, and usually with a dusky area along each side of anterior portion; larger wing-coverts, remiges, and rectrices with paler grayish brown edgings, the latter (except middle pair) with basal half (approximately) cinnamon-rufous; upper tail-coverts sometimes intermixed with cinnamon-rufous; a distinct superciliary stripe of dull white; lores dusky, sometimes tinged with blue, more or less dotted with whitish posteriorly; an indistinct or incomplete orbital ring of whitish; suborbital and auricular regions grayish brown, more or less streaked with whitish or buffy, especially on lower portion; sides of neck grayish brown, slightly paler than upper parts; chin, throat, and upper chest blue (varying from azure to campanula), inclosing a large spot or patch of cinnamon-rufous on lower throat; a blackish band (more or less broad) across middle chest, the lower chest cinnamon-rufous, with tips of feathers, more or less extensively, buffy whitish; rest of under parts dull white, the sides and flanks strongly tinged with pale buffy brown or grayish buff, the under tail-coverts with buff; bill black; iris brown; tarsi brownish, toes dusky.

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Adult male in autumn and winter.—Similar to the spring and summer plumage, but blue of chin and throat replaced by dull whitish, feathers of lower throat and chest tipped with whitish, and flanks and under tail-coverts more strongly tinged with buff.

Adult female.—Similar to the adult male, but blue and cinnamon-rufous of throat replaced by buffy white, or but partially indicated, no rufous across lower chest, and blackish chest-band continued forward at extremities along sides of throat (decreasing in width and more broken anteriorly).

Young.—Above dark sooty brown or dusky, the hindneck, back, scapulars, smaller wing-coverts, rump, and upper tail-coverts conspicuously streaked with dull brownish white (the streaks broader and more fulvous on upper tail-coverts); under parts dull white, conspicuously streaked with dark sooty brown, the streaks coalescing into a nearly uniform band across upper chest.

Adult male.—Length (skins), 128–166 (144); wing, 71.5–78.5 (74.9); tail, 51.5–57.5 (53.9); exposed culmen, 11.5–12.5 (12.2); tarsus, 27–29 (28.2); middle toe, 15–16 (15.9).[a]

Adult female.—Length (skins), 129–158 (145); wing, 69.5–73.5 (71.4); tail, 49.5–54 (52); exposed culmen, 11.5–12.5 (12); tarsus, 26.5–27.5 (26.9); middle toe, 14–15 (14.5).[b]

Northern portions of Palæarctic Region, breeding within the Arctic Circle, from the Scandinavian peninsula to eastern Siberia and (locally or sporadically) western Alaska (breeding at Cape Blossom), and southward on highly elevated parts of central Asia to the northern Himalayas; during migration southward over central and southern Europe to Palestine and Abyssinia, and through Turkestan, Mongolia, and northern China to Beluchistan, India, Ceylon, Burma, Andaman Islands, and southern China; accidental or occasional visitant to British Islands during migrations.

[*Motacilla*] *suecica* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 187 (ex Fauna Suecica); ed. 12, i, 1766, 336, part (includes *C. cyanecula*).

Ficedula suecica BOIE, Isis, 1822, 553, part.

Curruca suecica SELBY, Trans. Nat. Hist. Soc. Northumb., i, 1831, 255.

Cyanecula suecica BREHM, Isis, 1828, 120; Vög. Deutschl., 1831, 350.—RÜPPELL, Syst. Ueb., 1845, 57.—GRAY, Cat. Mam., etc., Nepal Coll. Hodgs., 1846, 70; ed. 1863, 35; Cat. Brit. Birds, 1863, 59.—BLYTH, Cat. Birds Mus. Asiat. Soc. Beng., 1849, 167.—HORSFIELD and MOORE, Cat. Birds Mus. East Ind. Co., i, 1854, 311.—HEUGLIN, Syst. Ueb., 1856, 25; Orn. N. Ost-Afr., i, 1869, 336.—SWINHOE, Ibis, 1867, 394 (Amoy, China); 1882, 108 (Kandahar, s. Afghanistan).—GOULD, Birds Gt. Brit., ii, 1869, pl. 49.—GODWIN-AUSTEN, Journ. Asiat. Soc. Beng., xxxix, pt. 2, 1870, 270.—SHELLEY, Birds Egypt, 1872, 85.—DRESSER, Ibis, 1875, 341 (Turkestan).—SEEBOHM and HARVIE BROWN, Ibis, 1876, 125 (lower Petchora, Russia).—BLANFORD, East Persia, ii, 1876, 169.—HUME and DAVISON, Stray Feath., vi, 1878, 337.—ADAMS, Ibis, 1878, 422 (St. Michael, Alaska, 7 specimens, June 5, 1851).—LEGGE, Birds Ceylon,

[a] Seven specimens. [b] Four specimens.

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1879, 443.—SEEBOHM, Ibis, 1880, 191 (Krasnoyarsk, Yenesay Valley, Siberia; descr. young).—SCULLY, Ibis, 1881, 447 (Gilgit, n. India).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 20.—COUES, Check List, 2d ed., 1882, no. 31.—SEVERTZOW, Ibis, 1883, 68 (Alai, Kashgar-Darya R., and Pamir range, centr. Asia).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 764.—PALMÉN, Vega-Exp., 1887, 259 (Tschuktschi peninsula, Siberia, June 7).—HARTERT, Journ. für Orn., 1889, 410 (Assam).—PEARSON and BIDWELL, Ibis, 1894, 229 (n. Norway; breeding habits).—PEARSON, Ibis, 1896, 207 (Russian Lapland; descr. eggs).—POPHAM, Ibis, 1897, 93 (Golchika, Yenesei R., breeding); 1898, 495 (Yenesei R.).—GRINNELL (J.), Pacific Coast Avifauna, no. 1, 1900, 64 (Cape Blossom, Alaska, breeding).—SCHALOW, Journ. für Orn., 1901, 452 (Kutscha and Jakka-Aryk, centr. Asia).—WALTON, Ibis, 1903, 25 (Peking, China).—SCHALOW, Vögel der Arktis, 1904, 269.—DAVIES, Ibis, 1905, 70 (upper Muonio R., Scandinavia; habits, etc.).—WITHERBY, Ibis, 1905, 184 (Algeria, Apr. 4).

C[yanecula] suecica GRAY, Gen. Birds, i, 1846, 182, part.—CABANIS, Mus. Hein., i, 1850, 1.—COUES, Key N. Am. Birds, 2d ed., 1884, 258; 5th ed., i, 1903, 259.—RIDGWAY, Man. N. Am. Birds, 1887, 579.

[Cyanecula] suecica GRAY, Hand-list, i, 1869, 223, no. 3196.—SHARPE, Hand-list, iv, 1903, 153.

Cyanecula suecica suecica HARTERT, Ibis, July, 1904, 433 (Lena R., Siberia).

Phœnicura suecica SYKES, Proc. Zool. Soc. Lond., 1832, 92.—JERDON, Madras Journ., x, 1839, 267.

Pandicilla suecica BLYTH, Field Nat., i, 1833, 291.

Luscinia (Cyanecula) suecica KEYSERLING and BLASIUS, Wirb. Eur., 1840, 58.

Lusciola suecica KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lviii, 190, part.—LINDERMAYER, Vög. Griechenl., 1860, 104.—SEVERTZOW, Turkestan Jevotn., 1873, 65.

Sylvia suecica NORDMANN, Démid. Voy. Russ. mérid., iii, 1840, 135.

Erithacus suecica DEGLAND, Orn. Eur., i, 1849, 513.—SEEBOHM, Hist. Brit. Birds, i, 1883, 269.

Luscinia suecica SUNDEVALL, Sv. Fogl., 1856, 60.

Cyanecula suecica JERDON, Birds India, ii, 1863, 152.—HARTING, Handb. Brit. Birds, 1872, 102.

Lusciola (Cyanecula) suecica FRITSCH, Vög. Eur., 1870, 184.

Ruticilla suecica NEWTON, ed. Yarrell's Hist. Brit. Birds, i, 1873, 321.

Motacilla cærulecula PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 480 (new name for *Motacilla suecica β.* Linnæus).

[Cyanecula] cærulecula BONAPARTE, Consp. Av., i, 1850, 296; Rev. Crit., 1859, 155.—GRAY, Hand-list, i, 1869, 223, no. 3198.

Cyanecula cærulecula DEGLAND and GERBE, Orn. Eur., i, 1867, 437.—SWINHOE, Proc. Zool. Soc. Lond., 1871, 359.—DAVID and OUSTALET, Ois. Chine, 1877, 234.—PRJEVALSKI, in Rowley's Orn. Misc., ii, 1877, 180.—BOGDANOW, Orn. Caucas., 1879, 99.

C[yanecula] cærulecula CABANIS, Mus. Hein., i, 1850, 1 (Siberia).—TACZANOWSKI, Bull. Soc. Zool. France, 1876, 143.

Sylvia (Cyanecula) suecica var. *cærulecula* MIDDENDORFF, Reis. Sibir., Zool., ii, pt. 2, 1853, 177.

Cyanecula suecica, B. cærulecula NEWTON, ed. Blasius List Birds Eur., 1862, 10.

Lusciola (Cyanecula) suecica, vart. *cærulecula* RADDE, Reis. Sibir., Vög., 1863, 253.

Sylvia cæruligula BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 167.

Erithacus cæruleculus SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 308.

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Cyanecula orientalis BREHM, Vög. Deutschl., 1831, 351.
Lusciola orientalis SCHLEGEL, Revue Crit., 1844, p. xxxii.
Ruticilla cyanecula (not *Sylvia cyanecula* Wolf) MACGILLIVRAY, Brit. Birds, ii, 1839, 300.
(?) *Lusciola cyanecula* SCHLEGEL, Revue Crit., 1844, p. xxxii.
Sylvia cyane (not *Motacilla cyane* Pallas) EVERSMANN, Add. Pall. Zoogr. Rosso-Asiat., ii, 1841, 12.
Cyanecula cyane BONAPARTE, Cat. Coll. Parzudaki, 1856, 5.
Calliope succioides HODGSON, in Gray's Zool. Misc., 1844, 83 (Nepal).
Cyanecula succioides HODGSON, in Gray's Zool. Misc., 1844, 83.
C[*yanecula*] *dichrosterna* CABANIS, Mus. Hein., i, 1850, 1, footnote (n. e. Africa; Arabia).
[*Cyanecula*] *dichrosterna* GRAY, Hand-list, i, 1869, 223, no. 2301.

Genus CATHARUS Bonaparte.

Catharus BONAPARTE, Consp. Av., i, 1850, 278. (Type, *C. immaculatus* Bonaparte = *Turdus aurantiirostris* Hartlaub.)
Malacocichla GOULD, Proc. Zool. Soc. Lond., 1854, 285. (Type, *M. dryas* Gould.)
Malacocychla (emendation) BONAPARTE, Compt. Rend., lxiii, 1856, 998.

Small, long-legged, rounded-winged Turdidæ with wing less than two and a half to nearly three times as long as tarsus, the latter much more than twice as long as exposed culmen; outermost (tenth) primary decidedly longer than primary coverts, sometimes more than half as long as ninth, the latter never longer than fourth, sometimes not longer than first; upper parts plain brown, olive, gray, or dusky, the head sometimes black; under parts whitish, grayish, or pale brownish, the chest sometimes spotted.

Bill much shorter than head, variable as to relative thickness; exposed culmen always decidedly less than half as long as tarsus (never longer than outer toe with claw), straight basally, then gradually and increasingly decurved toward tip, sometimes straight for basal half or more; gonys faintly convex, ascending terminally, not shorter than mandibular rami (usually longer); maxillary tomium nearly straight, distinctly notched subterminally. Nostril oval or ovate, overhung by membrane (more or less broad), posteriorly usually in contact with (sometimes partly covered by) feathering of frontal antiæ. Rictal bristles very distinct; feathers of chin and lores (especially the former) with distinct bristle-like tips. Wing moderate to rather short (less than two and a half to nearly three times as long as tarsus), the longest primaries exceeding longest secondaries by not more than half the length of tarsus, usually much less; outermost (tenth) primary much longer than primary coverts, sometimes much more than half as long as ninth, the latter never longer than fourth, sometimes not longer than first; the seventh and sixth, seventh, sixth, and fifth or sixth longest. Tail decidedly shorter than wing, usually slightly shorter than distance from bend of wing to end of secondaries (longer in *C. occidentalis*), usually slightly rounded (even

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or very faintly emarginate in *C. occidentalis*), the rectrices with extreme tip minutely acuminate. Tarsus long and slender, much more than twice as long as exposed culmen, the acrotarsium with both sides undivided; middle toe (without claw) three-fifths as long as tarsus or slightly less; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux equal to inner toe or slightly shorter; basal phalanx of middle toe united for more than basal half to outer toe, for less than half to inner toe; claws normal, that of hallux shorter than its digit.

Coloration.—Above plain brown, olive, or slaty; if brown or olive, the pileum sometimes grayish or more refescent, or wings and tail more rufescent; if slaty, the pileum blackish; under parts whitish (at least on abdomen), becoming brownish or grayish on chest, sides, and flanks, or gray with olive or fulvous across chest; chest sometimes spotted; sexes alike.

Nidification.—Nest (of *C. melpomene*) open above, composed chiefly of moss; eggs (of *C. melpomene*) white or very pale bluish, speckled or spotted, more or less densely, with reddish brown.

Range.—Confined to tropical portions of American continent (northern Mexico to Bolivia and northern Peru); apparently wanting from lower Amazon district (including Guiana) and Brazilian district. (About twenty species and subspecies.)

The present genus is closely related to *Hylocichla*, with which it very nearly intergrades through *C. occidentalis* and other species. Like the *Hylocichlæ* the species, except *C. melpomene*, are mostly birds of the mountain forests, living near the ground. All are songsters of greater or less merit, the song of *C. frantzii* reminding one strongly of that of the famed Hermit Thrush (*Hylocichla guttata pallasi*) which it furthermore closely resembles in its habits. *C. melpomene costaricensis*, however, is a bird of the open cultivated districts and its song is unattractive.

KEY TO THE SPECIES AND SUBSPECIES OF CATHARUS.

a. Pileum black.
  b. Black of pileum abruptly contrasted with the color of back.
    c. Back slate-grayish; chest buffy white or buff-yellowish spotted with grayish or dusky. (Guatemala; Colombia?) ..... **Catharus dryas** (p. 21)
    cc. Back olive or olive-brown; chest plain gray or olive. (*Catharus mexicanus.*)
      d. Under parts paler, with chin and throat whitish. (Southern Mexico to n. Panama.) ..... **Catharus mexicanus mexicanus** (p. 22)
      dd. Under parts darker, with chin and throat gray, nearly concolor with chest. (Costa Rica.) ..... **Catharus mexicanus fumosus** (p. 24)
  bb. Black of pileum shading gradually and hardly perceptibly into the dark blackish slate color of back.. (*Catharus fuscater.*)

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c. Back, etc., brownish slate-gray; chin and throat whitish; white of abdomen more extended. (Central Colombia.)

Catharus fuscater fuscater (extralimital) [a]

cc. Back, etc., deep blackish slate or slate-black; chin and throat gray, not very, if at all, different from color of chest; white of abdomen more restricted.

d. Gray of throat quite uniform with that of chest; under tail-coverts clear slate-gray or mouse gray, like color of sides and flanks. (Santa Marta district of Colombia.).....**Catharus fuscater sanctæ-martæ** (extralimital) [b]

dd. Gray of throat obviously paler and duller than that of chest; under tail-coverts dull brownish buff or wood brownish. (Costa Rica and n. Panama.)

Catharus fuscater hellmayri (p. 24)

aa. Pileum brownish or grayish.

b. Pileum brown, either concolor with back or more rufescent.

c. Pileum more rufescent than color of back, the latter not distinctly or at least not conspicuously less rufescent than upper tail-coverts and tail.

d. Inner webs of remiges becoming buffy toward base. (*Catharus occidentalis.*)

e. Upper parts distinctly brown or russet.

f. Brighter russet-brown above, the pileum russet; sides and flanks browner. (Southeastern Mexico.)

Catharus occidentalis occidentalis (p. 26)

ff. Duller brown above, the pileum more tawny-olive; sides and flanks more grayish. (Southwestern Mexico.)

Catharus occidentalis fulvescens (p. 27)

ee. Upper parts grayish olive; the pileum between hair brown and isabella color. (Northwestern Mexico.)..**Catharus occidentalis olivascens** (p. 27)

dd. Inner webs of remiges not buffy basally. (*Catharus frantzii.*)

e. Under parts paler, the lower throat and upper chest distinctly spotted with deep smoke grayish (as in *C. occidentalis*); throat dull white, and abdomen extensively white. (Southwestern Mexico.)

Catharus frantzii omiltemensis (p. 29)

ee. Under parts darker, the lower throat and chest not distinctly, if at all, spotted; throat grayish, abdomen not extensively whitish.

f. Back, scapulars, etc., more olive-brown, the pileum russet-brown or raw umber; chest less strongly tinged with brown. (Highlands of Chiapas and Guatemala.).....**Catharus frantzii alticola** (p. 29)

ff. Back, scapulars, etc., russet-brown, the pileum russet; chest strongly tinged with brown. (Highlands of Costa Rica.)

Catharus frantzii frantzii (p. 28)

cc. Pileum concolor with back, the upper tail-coverts and tail (sometimes wings also) decidedly more rufescent. (*Catharus melpomene.*)

d. Larger (wing averaging more than 82, tail more than 67, in adult male).

e. More russet-brown above; gray of chest and sides averaging deeper and duller. (Southeastern Mexico.)...**Catharus melpomene melpomene** (p. 29)

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[a] *M[yioturdus] fuscater* Lafresnaye, Rev. Zool., viii, Sept., 1845, 341 (Bogota, Colombia; type in coll. Lafresnaye, now in coll. Boston Soc. Nat. Hist.). *Catharus fuscater* Sclater, Proc. Zool. Soc. Lond., 1859, 324, part (int. Colombia). *C[atharus] f[uscater] fuscater* Berlepsch, Orn. Monatsber., x, 1902, 71 (crit.).

[b] *Catharus fuscater* (not *Myioturdus fuscater* Lafresnaye) Bangs, Proc. Biol. Soc. Wash., xiii, 1899, 108 (Chirua, Santa Marta; fresh colors of soft parts); Allen, Bull. Am. Mus. N. H., xiii, 1900, 183 (El Libano, Santa Marta; crit.).—*Catharus fuscater sanctæ-martæ* Ridgway, Smithson. Misc. Col. (quart. issue), xlvii, Aug. 6, 1904, 112 (El Libano, Santa Marta, Colombia; coll. Carnegie Mus.).

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cc. More olive-brown above; gray of chest and sides averaging paler and clearer. (Western Mexico.).....**Catharus melpomene clarus** (p. 30)

dd. Smaller (wing averaging less than 80, tail less than 65, in adult male). (Highlands of Costa Rica.).....**Catharus melpomene costaricensis** (p. 31)

bb. Pileum grayish, at least for anterior portion, conspicuously different from the brown or russet-brown of back, etc.

c. Bill and feet yellowish; throat and under tail-coverts white, the former slightly streaked with gray; chest gray. (Highlands of Panama.)

Catharus griseiceps (p. 32)

cc. Bill and feet dusky; throat gray; chest light olive or tawny-olive; under tail-coverts pale grayish or pale buffy brownish. (*Catharus gracilirostris*.)

d. Bill smaller, more pointed and slender (exposed culmen averaging 12.7 in adult male). (Highlands of Costa Rica.)

Catharus gracilirostris gracilirostris (p. 32)

dd. Bill larger and stouter (exposed culmen averaging 13.8 in adult male). (Highlands of Panama.).....**Catharus gracilirostris accentor** (p. 33)

CATHARUS DRYAS (Gould).

GOULD'S NIGHTINGALE THRUSH.

Adult male.—Head, except chin and throat, uniform black; hindneck, back, scapulars, wing-coverts, rump, and upper tail-coverts, plain brownish slate color (between slate color and mouse gray), the last sometimes more brownish; remiges and rectrices darker (dusky) with brownish slate colored edgings, these paler and more brownish on terminal portion of longer primaries; under parts, including chin and throat, yellowish white, more or less strongly tinged with buff-yellow[a] on chest and lower throat, passing into slate-gray on sides and flanks; chest (sometimes breast also) spotted with slate-gray or brownish slate; bill, naked eyelids, legs, and feet yellowish (bright yellow or orange in life); length (skins), 167–188 (177); wing, 96–97.5 (96.7); tail, 71.5–73 (72.2); exposed culmen, 16; tarsus, 34.5; middle toe, 18.5–19.5 (19).[b]

Adult female.—Similar to the adult male, but slate color of upper parts darker and browner; culmen partly blackish; length (skin), 164; wing, 92.5; exposed culmen, 15; tarsus, 35.5; middle toe, 19.5.[c]

Highlands of Guatemala (Teleman; Volcan de Agua, above San Diego), Highlands of Colombia (Bogota)? Highlands of Ecuador (Rio Napo, Pallatanga, and Chillanes, eastern Ecuador; Chimbo, Pedregal, Placer, and Cayandeled, western Ecuador)? Highlands of northwestern Peru (Huambo) and Bolivia?

Owing to great scarcity of material (only three Guatemalan and two South American specimens having been seen by me) I am not able to state whether the Central American and South American birds are really the same or not. The descriptions are from Guatemalan

[a] This fine buff-yellow color is very evanescent and finally disappears on very old skins.

[b] Two specimens, from Guatemala.

[c] One specimen, from Guatemala.

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examples, with which one from Bogota, Colombia, appears to agree very closely, but one from the Rio Napo, eastern Ecuador, in the United States National Museum collection is so conspicuously different that it can hardly be the same form. The Rio Napo specimen is much browner above than either of the Guatemalan skins or that from Bogota, the spots on the chest are decidedly darker (dull blackish) as well as more triangular in form, the malar region is streaked sooty black and pale buffy instead of forming a sharply defined black patch, and the black of the head is much less intense. The wing and tarsus are also shorter.

CENTRAL AMERICAN REFERENCES.

Malacocichla dryas GOULD, Proc. Zool. Soc. Lond., Nov. 28, 1854, 285, 286, pl. 75 (Guatemala; type in coll. Brit. Mus.); Ann. and Mag. N. H., 2d ser., xvii, 1856, 78, 79.—SCLATER and SALVIN, Ibis, 1859, 7 (Vera Paz, Guatemala).

Catharus dryas SCLATER, Proc. Zool. Soc. Lond., 1859, 324 (monogr.); Cat. Am. Birds, 1862, Suppl. no. 2* (Vera Paz).—BAIRD, Review Am. Birds, 1864, 10 (Teleman, Guatemala).—SALVIN, Proc. Zool. Soc. Lond., 1866, 69 (references).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 7, part, pl. 2, fig. 2 (Teleman and Volcan de Agua, above San Diego, Guatemala).

[*Catharus*] *dryas* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.—SHARPE, Hand-list, iv, 1903, 182, part.

[*Turdus*] *dryas* GRAY, Hand-list, i, 1869, 259, no. 3781.

Turdus dryas SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 204, part.

SOUTH AMERICAN REFERENCES.

Malacocichla maculata SCLATER, Proc. Zool. Soc. Lond., 1858, 64 (Rio Napo, e. Ecuador; coll. P. L. Sclater; ex *Catharus maculatus* J. Verreaux, manuscript).

Catharus maculatus SCLATER, Proc. Zool. Soc. Lond., 1859, 324 (monogr.); 1860, 64 (Pallatanga and Chillanes, Ecuador); Cat. Am. Birds, 1862, 1 (Chillanes and Pallatanga, e. Ecuador).—SALVIN, Proc. Zool. Soc. Lond., 1866, 69.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1882, 5 (Huambo, n. e. Peru).

[*Catharus*] *maculatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.

Catharus dryas (not *Malacocichla dryas* Gould?) BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 538 (Chimbo, w. Ecuador; crit.); 1884, 283 (Pedregal, Placer, and Cayandeled, w. Ecuador; crit.).

[*Catharus*] *dryas* SHARPE, Hand-list, iv, 1903, 182, part.

CATHARUS MEXICANUS MEXICANUS (Bonaparte).

BLACK-HEADED NIGHTINGALE THRUSH.

Adults.—Pileum plain black, becoming duller and tinged with grayish brown on the forehead; rest of upper parts plain olive, the upper tail-coverts and tail slightly browner (inclining to bister); sides of head, including lores, dusky (dull blackish gray) fading into brownish gray on lower portion of auricular and suborbital regions and malar region; chin and throat dull white, tinged, or obsoletely streaked or spotted, with pale grayish olive-brown; chest, upper breast, sides, and flanks light olive; lower breast, abdomen, and under tail-coverts white, the last strongly tinged with buff; bill, naked eyelids, legs, and feet yellowish (bright yellow or orange in life).

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Adult male.—Length (skins), 148–155.5 (151.5); wing, 83–94.5 (87.2); exposed culmen, 14.5–15.5 (15); tarsus, 31–34 (32); middle toe, 17.5–19 (17.9).[a]

Adult female.—Length (skin), 144; wing, 82.5; tail, 55.2; exposed culmen, 15; tarsus, 31; middle toe, 17.[b]

Young.—A specimen retaining only a portion of the first plumage has the scapulars and a few of the interscapulars marked with broad guttate or fusiform mesial streaks of light russet or dull tawny-ochraceous, and most of the feathers of the chest have a large ovate central spot of buff, margined with olive.

The series of specimens of this species at my command is much too small to admit of any clear understanding of the extent of individual and geographical variation, especially the latter; but I believe that there are three forms, represented, respectively, by the birds of southern Mexico, Guatemala, and Costa Rica. Unfortunately I have only one each from the two first-named localities and five from the last. The Mexican (Jalapa) and Guatemalan specimens agree, and differ from all the Costa Rican specimens, in having the bill wholly yellowish, the Costa Rican ones having the maxilla black with yellowish tomia; but the Guatemalan specimen, although sexed as a male, is much smaller than the one from Jalapa, has the upper parts much browner (bister or sepia instead of olive), and the tail almost mummy brown. The Costa Rican specimens are small, like the Guatemalan example, but besides differing in the blackish maxilla, are deep brownish olive above (about intermediate in color between the Jalapa and Guatemalan specimens), and have the chest, sides, and flanks mostly gray, instead of olive. Measurements are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Adult male from Jalapa, Vera Cruz (no. 68506, Am. Mus. Nat. Hist.)	94.5	67.5	.....	31	19
Adult male from Guatemala (no. 39095, Am. Mus. Nat. Hist.)	84.5	56.5	14.5	34	17.5
Adult male from Volcan de Irazú, Costa Rica (no. 11127, Carnegie Mus.)	83	58	15.5	33.5	17.5
Adult male from Turrialba, Costa Rica (no. 13539, Carnegie Mus.)	86.5	61	15	31	17.5
FEMALE.					
Adult female from Turrialba, Costa Rica (no. 13557, Carnegie Mus.)	82.5	55.5	15	31	17

Collector's notes on fresh colors of the soft parts of the Costa Rican specimens are as follows: "Iris, dark hazel; eyelids, orange; upper mandible, black, broad edges, and lower mandible bright reddish orange; feet, straw" (feet noted as yellow in one specimen).

[a] Six specimens. [b] One specimen, from Costa Rica.

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Highlands of southern Mexico, in States of Vera Cruz (Jalapa) and Mexico (valley of Mexico), Guatemala (Coban; Teleman), Costa Rica (Jiménez; Tucurrique; Volcan de Irazú; Volcan de Miravalles; Bonilla; Turrialba), and Panama (Calovevora; Cordillera del Chucu).

Malacocychla mexicana BONAPARTE, Compt. Rend., xliii, 1856, 998 (Jalapa, Vera Cruz, Mexico).

Malacocichla mexicana SCLATER, Proc. Zool. Soc. Lond., 1857, 203 (Jalapa).—SCLATER and SALVIN, Ibis, 1859, 7 (Coban, Guatemala).

Catharus mexicanus SCLATER, Proc. Zool. Soc. Lond., 1859, 324 (monogr.); 1864, 172 (valley of Mexico); Cat. Am. Birds, 1862, 1 (Mexico; Vera Paz, Guatemala).—BAIRD, Review Am. Birds, 1864, 11 (Teleman, Guatemala).—SALVIN, Proc. Zool. Soc. Lond., 1866, 69 (Vera Paz, Guatemala; Tucurrique, Costa Rica); 1870, 179 (Calovevora and Cordillera del Chucu Veragua).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 90 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 289 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 542 (temp. region Vera Cruz).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 6, part, pl. 2, fig. 1 (localities in Mexico and Guatemala); Ibis, 1889, 234 (Jalapa, Vera Cruz; crit.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 286.—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 517 (Jiménez, Costa Rica; crit.).—UNDERWOOD, Ibis, 1896, 432 (Volcan de Miravalles, Costa Rica).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 19 (Jalapa; crit.).

[*Catharus*] *mexicanus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.—SHARPE, Hand-list, iv, 1903, 182.

[*Turdus*] *mexicanus* GRAY, Hand-list, i, 1869, 259, no. 3784.

CATHARUS MEXICANUS FUMOSUS (Ridgway).

SOOTY NIGHTINGALE THRUSH.

Adult male.—Similar to *C. m. mexicanus*, but under parts much darker, the chin and throat gray (nearly mouse gray), indistinctly streaked with grayish white, the chest, breast, sides, and flanks rather deeper mouse gray, tinged with olive; upper parts colored as in Costa Rican examples of *C. m. mexicanus*, but brownish olive (bister) of back, etc., slightly deeper; length (skin), 155; wing, 90; tail, 60.5; exposed culmen, 15; tarsus, 31; middle toe, 17.5.[a]

Highlands of Costa Rica (precise locality unknown).

Catharus fumosus RIDGWAY, Proc. U. S. Nat. Mus., x, sig. 32, Aug. 6, 1888, 505 (Costa Rica; coll. U. S. Nat. Mus.).

[*Catharus*] *fumosus* SHARPE, Hand-list, iv, 1903, 182.

CATHARUS FUSCATER HELLMAYRI Berlepsch.

HELLMAYR'S NIGHTINGALE THRUSH.

Adults (*sexes alike*).—Above, including sides of head and neck, plain deep blackish slate or slate-black; anterior and lateral under parts plain slate-gray, the throat sometimes slightly paler, the flanks darker;

[a] One specimen, the type (no. 101765, coll. U. S. Nat. Mus., J. C. Zeledon; exact locality unknown). Fresh colors of this specimen are recorded by the collector as follows: "Feet and legs, lemon yellow; bill and eyelids, orange-red; gonys [i. e., culmen], black; iris, dark brown."

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abdomen, median portion of lower breast, and anal region dull white (more or less buffy or cream yellowish in fresh specimens); under tail-coverts mixed grayish and dull whitish, more or less strongly tinged with pale brownish buff; bill yellowish (bright orange, orange-red, or vermilion red in life) with more or less of dusky on culmen; inside of mouth intense orange or red-orange; naked eyelids orange or orange-red; iris white or pale smoke-gray; legs and feet yellowish (orange-red, orange, or orange-yellow in life).

Adult male.—Length (skins), 159–176 (168); wing, 81.5–92.5 (88.5); tail, 63–72.5 (68.8); exposed culmen, 14.5–16.5 (15.9); tarsus, 33.5–36.5 (34.8); middle toe, 19.5–21 (20).[a]

Adult female.—Length (skins), 156–165 (161); wing, 81–89 (84.4); tail, 61.5–67.5 (64.1); exposed culmen, 15–16.5 (15.9); tarsus, 33–34.5 (33.7); middle toe, 18.5–20 (19.3).[b]

Costa Rican specimens compare in average measurements with those from Chiriqui as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Costa Rica (La Palma)	88.2	66	15.7	35.2	20
Ten adult males from Chiriqui (Boquete)	88.4	69.3	15.9	34.8	20
FEMALES.					
Two adult females from Costa Rica (Cervantes)	86.7	63.5	15.5	34.2	19.2
Seven adult females from Chiriqui (Boquete and Volcan de Chiriqui)	83.7	64.3	15.9	33.8	19.2

Highlands of Costa Rica (Cervantes; La Palma de San José; Coliblanco; Cuscua) and Panama (Calovevora; Cordillera de Tolé; Cordillera del Chucu; Volcan de Chiriqui; Boquete).

Catharus fuscater (not *Myioturdus fuscater* Lafresnaye) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 90 (Cervantes, Costa Rica; crit.).—SALVIN, Proc. Zool. Soc. Lond., 1867, 132 (Cordillera de Tolé, Veragua; crit.); 1870, 180 (Calovevora and Cordillera del Chucu, Veragua).—FRANTZIUS, Journ. für. Orn., 1869, 289 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 5, part (Costa Rica; Veragua).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 285, part (Veragua).—RIDGWAY, Proc. U. S. Nat. Mus., iv, 1881, 333 (Cuscua, La Palma, Costa Rica; crit.; descr.).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 50 (Boquete and Volcan de Chiriqui, 4,000 to 7,500 ft.).

[*Catharus*] *fuscater* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

Catharus fuscater hellmayri BERLEPSCH, Orn. Monatsber., x, no. 5, May, 1902, 69 (Chiriqui; coll. von Berlepsch).

[*Catharus*] *hellmayri* SHARPE, Hand-list, iv, 1903, 182.

[a] Twelve specimens. [b] Nine specimens.

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CATHARUS OCCIDENTALIS OCCIDENTALIS (Sclater).

RUSSET NIGHTINGALE THRUSH.

Adults (*sexes alike*).—Pileum and hindneck uniform deep russet (or between russet and mars brown); remainder of upper parts similar, but more olivaceous (varying from slightly olivaceous russet to nearly raw-umber brown), the upper tail-coverts and tail, however, always more rufescent than back; sides of head and neck light olive-brown or buffy olive; chin and throat dull buffy whitish, grayish white, or pale buff, the latter (at least lower portion) usually obsoletely streaked with pale grayish brown or olive; chest pale buffy olive, obsoletely streaked or spotted with darker; sides and flanks pale grayish olive; maxilla dark brown or blackish, with paler tomia; mandible yellowish basally, the terminal half (more or less) dusky; iris brown; legs and feet pale brownish or dull yellowish (in dried skins).

Young.—Above russet or rufescent brown, the feathers of pileum, hindneck, and back, scapulars, and smaller wing-coverts with mesial streaks or guttate spots of light tawny; under parts, except abdomen, pale buffy, the feathers of chest, breast, and sides tipped with olive or olive-brown, forming transverse spots or bars.

Adult male.—Length (skins), 162–170 (166); wing, 89.5–90.5 (90); tail, 77.5–78 (77.7); exposed culmen, 13.5; tarsus, 30.5–32.5 (31.5); middle toe, 17.5–18.5 (18).[a]

Adult female.—Length (skins), 150–168 (160); wing, 75–84.5 (81.4); tail, 60–73 (68.3); exposed culmen, 14–15.5 (14.7); tarsus, 30–33 (31.5); middle toe, 16.5–18.5 (17.7).[b]

Mountains of southeastern Mexico, in States of Vera Cruz (Orizaba), Puebla (Sierra Madre near Zapotitlan; Mount Orizaba), and Oaxaca (Totontepec; Mount Zempoaltepec).

Catharus occidentalis SCLATER, Proc. Zool. Soc. Lond., 1859, 323, 370 (Totontepec, Oaxaca; coll. P. L. Sclater); Ann. and Mag. N. H., (3), iv, 1859, 400; Cat. Am. Birds, 1862, 1 (Totontepec).—BAIRD, Review Am. Birds, 1864, 8 (Orizaba, Vera Cruz).—SALVIN, Proc. Zool. Soc. Lond., 1866, 69 (s. Mexico).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 542 (alpine reg. Vera Cruz).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 11 (Sierra Madre near Zapotitlan, Puebla, Jan.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 4.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 291.

[*Catharus*] *occidentalis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.—SHARPE, Hand-list, iv, 1903, 181.

[*Turdus*] *occidentalis* GRAY, Hand-list, i, 1869, 259, no. 3776.

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[a] Two specimens. [b] Five specimens.

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CATHARUS OCCIDENTALIS FULVESCENS Nelson.[a]

FULVOUS NIGHTINGALE THRUSH.

Similar to *C. o. occidentalis*, but upper parts slightly less rufescent, the back, etc., more olivaceous (more nearly raw umber); under parts slightly paler, with sides and flanks usually clearer (less olive or buffy) grayish.

Adult male.—Length (skins), 157–170 (167); wing, 85.5–96.5 (89.7); tail, 73–89 (78.8); exposed culmen, 13–15 (13.7); tarsus, 31–33 (32.1); middle toe, 17–18.5 (17.4).[b]

Adult female.—Length (skins), 154–171 (162); wing, 79.5–88.5 (83.2); tail, 68.5–76 (71.7); exposed culmen, 14–15.5 (14.3); tarsus, 30–33.5 (31.1); middle toe, 16.5–18.5 (17.6).[c]

Mountains of southwestern Mexico, in States of Mexico (Amecameca; Ajusco, Federal District; Volcan de Toluca), Hidalgo (El Chico), Morelos (Huitzilac), Guerrero (Chilpancingo; Omilteme), Michoacan (Mount Tancítaro), and Jalisco (San Sebastian; Sierra Madre de Colima).

Catharus occidentalis fulvescens Nelson, Auk, xvi, Jan., 1897, 75 (Amecameca, Mexico, Mexico; coll. U. S. Nat. Mus.).

CATHARUS OCCIDENTALIS OLIVASCENS (Nelson).[d]

OLIVE NIGHTINGALE THRUSH.

Much grayer above than *C. o. fulvescens*, the pileum varying from deep wood brown or isabella color to between wood brown and cinnamon, the back, etc., from isabella color to broccoli brown; under parts averaging slightly paler.

Adult male.—Length (skins), 162–173 (168); wing, 87–96.5 (92.2); tail, 73.5–82 (77.3); exposed culmen, 13.5–14.5 (14.3); tarsus, 30–33 (31.5); middle toe, 18.5–19.5 (18.8).[c]

Adult female.—Length (skins), 160–166 (162); wing, 85–89 (87.2); tail, 72–75.5 (73.1); exposed culmen, 14.5–15 (14.7); tarsus, 30–32 (30.7); middle toe, 17–19 (18).[e]

Northwestern Mexico in State of Chihuahua (Sierra Madre; Colonia Garcia; Pinos Altos; Jesus Maria; Bravo).

Catharus olivascens Nelson, Proc. Biol. Soc. Wash., xiii, May 29, 1899, 31 (Sierra Madre, Chihuahua, 65 miles e. of Batopilas; coll. U. S. Nat. Mus.).

[*Catharus*] *olivascens* Sharpe, Hand-list, iv, 1903, 181.

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[a] Like *C. melpomene clarus*, a rather unsatisfactory subspecies.

[b] Eleven specimens.

[c] Seven specimens.

[d] A very strongly marked subspecies, but I can see no reason for considering the form specifically distinct from *C. occidentalis*.

[e] Four specimens.

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CATHARUS FRANTZII FRANTZII Cabanis.

FRANTZIUS' NIGHTINGALE THRUSH.

Adults (sexes alike).—Pileum and hindneck uniform deep russet (varying from nearly mars brown to almost raw-umber); rest of upper parts plain olive-brown or raw-umber, usually somewhat duller or warmer brown on upper tail-coverts, tail, and remiges; sides of head lighter, more grayish olive, gradually fading into dull white or grayish white on throat; rest of under parts pale gray, more or less strongly tinged with olive on chest, sides, and flanks (especially on the last, which are sometimes decidedly olivaceous), the abdomen, anal region, and under tail-coverts white; maxilla black or dusky brown; mandible yellowish. (pale salmon-color in life); inside of mouth intense yellow-orange; iris dark brown; legs and feet light horn color (in dried skins), pale grayish brown in life.

Immature.—Above bright mummy brown, the back almost concolor with the pileum; chest light mummy brown or mars brown; rest of under parts mostly as in adults, but the few feathers of the first plumage remaining on breast are white tipped with brown.

Adult male.—Length (skins), 150.5–168 (165.5); wing, 79.5–89 (87.2); tail, 62.5–72.5 (68.7); exposed culmen, 14–16.5 (15.4); tarsus, 33–36 (34.3); middle toe, 18.5–20.5 (19.2).[a]

Adult female.—Length (skins), 152.5–177 (163); wing, 78–87.5 (83.4); tail, 66–73 (68.7); exposed culmen, 14–16 (14.7); tarsus, 33–34 (33.7); middle toe, 17–20 (18.5).[b]

Highlands of Costa Rica (Volcan de Irazú; Volcan de Turrialba; La Estrella de Cartago; San José; La Palma de San José; Rancho Redondo; Rancho de Rio Jiménez; Navarro; Potrero Cerrado), and Panama (Boquete; Volcan de Chiriqui).

Catharus frantzii Cabanis, Journ. für Orn., viii, Sept., 1860 (published Jan., 1861), 323 (Volcan de Irazú, Costa Rica; coll. Berlin Mus.).—Baird, Review Am. Birds, 1864, 9 (Costa Rica).—Salvin, Proc. Zool. Soc. Lond., 1866, 69, part (Costa Rica).—Lawrence, Ann. Lyc. N. Y., ix, 1868, 90 (Rancho Redondo and San José, Costa Rica).—Frantzius, Journ. für Orn., 1869, 289 (Volcan de Irazú, Potrero Cerrado, and La Palma, Costa Rica).—Boucard, Proc. Zool. Soc. Lond., 1878, 50 (Navarro, Costa Rica).—Salvin and Godman, Biol. Centr.-Am., Aves, i, 1879, 4.—Seebohm, Cat. Birds Brit. Mus., v, 1881, 290.—Ridgway, Proc. U. S. Nat. Mus., v, 1883, 494 (Volcan de Irazú, Costa Rica).—Zeledon, Proc. U. S. Nat. Mus., viii, 1885, 104 (Costa Rica).—Bangs, Proc. New Engl. Zool. Club, iii, 1902, 50 (Boquete and Volcan de Chiriqui, Chiriqui, 5,000 to 7,000 ft.).

[*Catharus*] *frantzii* Sclater and Salvin, Nom. Av. Neotr., 1873, 1, part (Costa Rica).—Sharpe, Hand-list, iv, 1903, 181.

[*Turdus*] *frantzii* Gray, Hand-list, i, 1869, 259, no. 3779.

[a] Twelve specimens.

[b] Six specimens.

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CATHARUS FRANTZII ALTICOLA (Salvin and Godman).

SALVIN'S NIGHTINGALE THRUSH.

Similar to *C. f. frantzii*, but larger; back, etc., more olivaceous brown, strongly contrasted with the russet of pileum and hindneck; gray of under parts deeper, less tinged with olive, especially on chest.

Adult male.—Length (skins), 161–177 (170); wing, 82.5–89.5 (87); tail, 67–77 (73.7); exposed culmen, 13.5–15 (14.5); tarsus, 33.5–35.5 (34.6); middle toe, 18.5–20 (19.2).[a]

Highlands of Guatemala (Dueñas; Volcan de Fuego, 6,000 to 10,000 feet; Volcan de Santa Maria) and Chiapas (Pinabete).

Catharus frantzii (not of Cabanis) SALVIN, Ibis, 1866, 190 (Dueñas, Guatemala; crit).

[*Catharus*] *frantzii* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part (Guatemala).

Catharus alticola SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, sig. 1, Sept., 1879, 3 (Volcan de Fuego; coll. Salvin and Godman).—REICHENOW and SCHALOW, Journ. für Orn., 1880, 206 (reprint of orig. descr.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 291.

[*Catharus*] *alticola* SHARPE, Hand-list, iv, 1903, 181.

Catharus frantzii alticola NELSON, Auk, xv, Apr., 1898, 161 (Volcan de Santa Maria, Guatemala; Pinabete, Chiapas).

CATHARUS FRANTZII OMILTEMENSIS Ridgway.

OMILTEME NIGHTINGALE THRUSH.

Similar to *C. f. alticola*, but under parts decidedly paler, with whole throat whitish and white of abdomen purer and more extended.

Adult male.—Length (skin), 163.5; wing, 86.5; tail, 71; exposed culmen, 14.5; tarsus, 33.5; middle toe, 19.[b]

Mountains of Guerrero (Omilteme), southwestern Mexico.

Catharus frantzii omiltemensis RIDGWAY, Proc. Biol. Soc. Wash., xviii, Oct. 17, 1905, 213 (Omilteme, Guerrero, Mexico; coll. U. S. Nat. Mus.).

CATHARUS MELPOMENE MELPOMENE (Cabanis).

NIGHTINGALE THRUSH.

Adults (sexes alike).—Above plain russet-brown (varying from between tawny-olive and raw umber to cinnamon-brown), the upper tail-coverts and tail more rufescent (cinnamon-brown to russet); sides of head similar but paler, the lores grayish; chin and throat dull white, obsoletely streaked with pale brownish gray; chest, sides, and flanks light brownish gray, usually more or less tinged with pale olive-brown; abdomen, anal region, and under tail-coverts white, the last sometimes faintly tinged with buff; bill sometimes entirely yellowish, but usually the maxilla brownish, darker (sometimes nearly black) on culmen, paler and more yellowish on tomia, the mandible always yellowish

[a] Eight specimens. I have not seen a female of this form.

[b] One specimen, the type.

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(bright orange in life), but sometimes brownish or dusky terminally; iris brown; legs and feet yellowish or very pale brownish (in dried skins).

Young.—Above brown, the pileum slightly duller, with feathers very indistinctly tipped with dusky; the rump and upper tail-coverts, scapulars, and interscapulars with mesial guttate streaks of dull tawny-ochraceous; chest and sides of breast grayish olive, broken by large, central spots of pale buff; sides and flanks pale buff, the feathers margined terminally with light olive; under tail-coverts immaculate buff; abdomen and throat white, the latter somewhat obscured by more or less extensive tips to feathers of pale olive.

Adult male.—Length (skins), 145–176 (159); wing, 76.5–86 (82.4); tail, 62–71.5 (67.5); exposed culmen, 14–16 (14.9); tarsus, 30–33 (31.9); middle toe, 17–18 (17.2).[a]

Adult female.—Length (skins), 148–156 (150); wing, 74.5–79 (76.7); tail, 60–64 (61.6); exposed culmen, 14–15 (14.6); tarsus, 31–33 (31.7); middle toe, 16.5–17 (16.6).[b]

Highlands of southeastern Mexico, in States of Vera Cruz (Jalapa, Orizaba, Cordova, Jico, Texolo) and Oaxaca (near Totontepec) and Guatemala (Dueñas, Volcan de Fuego). Honduras? Nicaragua??

T[urdus] melpomene CABANIS, Mus. Hein., i, 1850, 5 (Jalapa, Vera Cruz, Mexico; coll. Berlin Mus.; ex *Sylvia melpomene* Lichtenstein, manuscript).—LICHTENSTEIN, Nomencl. Av. Mus. Berol., 1854, 25.

[*Turdus*] *melpomene* GRAY, Hand-list, i, 1869, 259, no. 3775.

Catharus melpomene SCLATER, Proc. Zool. Soc. Lond., 1858, 97 (s. Mexico; crit.); 1859, 323 (monogr.; Cordova and Orizaba, Vera Cruz; Guatemala), 362 (Jalapa), 370 (Totontepec, Oaxaca); Cat. Am. Birds, 1862, 1 (Orizaba; Guatemala).—SCLATER and SALVIN, Ibis, 1859, 6 (Guatemala).—SALVIN and SCLATER, Ibis, 1860, 29 (Dueñas, Guatemala; habits; song).—BAIRD, Review Am. Birds, 1864, 7, part (Cordova and Orizaba, Vera Cruz; Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 542 (temperate and alpine regions Vera Cruz).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 2, part.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 288, part.—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 18 (Jalapa; habits; song).

[*Catharus*] *melpomene* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part (Mexico; Guatemala).—SHARPE, Hand-list, iv, 1903, 180.

C[atharus] melpomene melpomene HELLMAYR, Journ. für Orn., Jan., 1902, 45, 46 (Cordova, Orizaba, and Jalapa, Vera Cruz; Totontepec, Oaxaca: Volcan de Fuego, Guatemala; Honduras?; Nicaragua?).

Catharus aurantiirostris (not *Turdus aurantiirostris* Hartlaub) SCLATER, Proc. Zool. Soc., Lond., 1856, 294 (Cordova, Vera Cruz; crit).

CATHARUS MELPOMENE CLARUS Jouy.

JOUY'S NIGHTINGALE THRUSH.

Similar to *C. m. melpomene*, but slightly lighter and less rufescent brown above, gray of under parts slightly paler or decidedly clearer or purer, and size averaging larger.

[a] Nine specimens. [b] Seven specimens.

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Adult male.—Length (skins), 158–173 (165); wing, 83.5–88 (85.6); tail, 67.5–72.5 (70.2); exposed culmen, 14–16 (14.9); tarsus, 31–34 (32.6); middle toe, 16.5–19 (17.4).[a]

Adult female.—Length (skins), 156–172 (162); wing, 78.5–83 (80.9); tail, 64.5–67 (66); exposed culmen, 14.5–15 (14.7); tarsus, 31.5–32.5 (32); middle toe, 16.5–17.5 (17).[b]

Highlands of central and western Mexico, in States of Puebla (Atlixco, June), Mexico (Amecameca; Ajusco, Federal District), Hidalgo (El Chico), Morelos (Huitzilac), Guerrero (mountains near Chilpancingo; Omilteme), Michoacan (Mount Tancítaro; Los Reyes; Patzcuaro), Jalisco (Barranca Ibarra; San Sebastian; Sierra Madre de Colima), and Chihuahua (Jesus Maria; Bravo), and Territory of Tepic (Tepic).

Catharus melpomene clarus JOUY, Proc. U. S. Nat. Mus., xvi, no. 975, Apr. 18, 1894, 773, 774 (Barranca Ibarra, Jalisco, w. Mexico; coll. U. S. Nat. Mus.).—HELLMAYR, Journ. für Orn., 1902, 46.

[*Catharus*] *clarus* SHARPE, Hand-list, iv, 1903, 181.

CATHARUS MELPOMENE COSTARICENSIS Hellmayr.

COSTA RICAN NIGHTINGALE THRUSH.

Similar to *C. m. melpomene*, but smaller; brown of upper parts averaging slightly less rufescent (more as in *C. m. clarus*).

Young.—Above duller brown than in adults, the scapulars, interscapulars, and smaller wing-coverts with central guttate spots or streaks of pale tawny; feathers of chest and sides buffy centrally, broadly margined with olive-brown, this predominating on chest.

Adult male.—Length (skins), 137–170 (156); wing, 75.5–83 (79.5); tail, 58–67.5 (63.5); exposed culmen, 14.5–15.5 (15.1); tarsus, 29–33 (31); middle toe, 16.5–18 (17.1).[c]

Adult female.—Length (skins), 145–152 (149); wing, 69.5–75.5 (72.4); tail, 55–59.5 (56.5); exposed culmen, 13.5–14.5 (14.2); tarsus, 28.5–30 (29); middle toe, 16.5–17.5 (16.8).[b]

Lower slopes of mountains of Costa Rica (Grecia; San José; Cartago; Navarro; Quebrada Honda; Monte Redondo).

Catharus melpomene (not *Turdus mĕlpomene* Cabanis) CABANIS, Journ. für Orn., 1860, 322 (Costa Rica).—BAIRD, Review Am. Birds, 1864, 7, part (San José, Costa Rica).—LAWRENCE, Ann. Lyc., N. Y., ix, 1868, 90 (Quebrada Honda, San José, and Grecia, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 289 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (San José and Cartago, Costa Rica; habits; song).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 2, part (Volcan de Irazú, Costa Rica).—ZELEDON, Proc. U. S. Nat. Mus., viii, 1885, 104 (Costa Rica).—CHERRIE, Auk., viii, 1891, 272 (San José, Costa Rica; habits; song; descr. nest and eggs); Proc. U. S. Nat. Mus., xiv, 1891, 517 (San José, Costa Rica; crit.).

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[a] Ten specimens. [b] Four specimens. [c] Seven specimens.

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[*Catharus*] *melpomene* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part (Costa Rica).

Catharus melpomene costaricensis HELLMAYR, Journ. für Orn., l, no. 1. Jan., 1902, 45 (Costa Rica; coll. von Berlepsch).

[*Catharus*] *costaricensis* SHARPE, Hand-list, iv, 1903, 181.

CATHARUS GRISEICEPS Salvin.

GRAY-HEADED NIGHTINGALE THRUSH.

Adult male.—Head and neck plain slate-gray, gradually fading to whitish gray or grayish white on throat; back, scapulars, and rump, plain tawny-olive or raw-umber, the upper tail-coverts, tail, and wings similar but slightly warmer or more rufescent brown; throat grayish white or very pale gray, sometimes streaked white and pale gray; chest, sides, and flanks plain clear gray (no. 6 or no. 7), the feathers of chest with very narrow and indistinct shaft-streaks of paler gray or white; lower median portion of breast, abdomen, anal region, and under tail-coverts white, the last sometimes faintly tinged with buff; maxilla yellowish, the culmen and most of basal portion dusky; mandible yellowish (bright yellow or orange in life); naked eyelids orange (in life); iris brown; legs and feet yellowish (orange or orange-yellow in life); length (skins), 146–154 (151); wing, 79–84 (80.2); tail, 58.5–64.5 (60.7); exposed culmen 13–15.5 (14.6); tarsus, 30.5–33.5 (31.7); middle toe, 17–17.5 (17.4).[a]

Adult female.—Similar to the adult male, but gray of head tinged with olive; length (skins), 139–157 (148); wing, 78–81 (79.2); tail, 57–61.5 (59.7); exposed culmen, 14.5–15.5 (15); tarsus, 30.5–31 (30.8); middle toe, 17–17.5 (17.2).[b]

Mountains of Panama (Boquete; Volcan de Chiriqui; Santa Fé; Chitra; Calovevora; Calobre; Soua).

Catharus griseiceps SALVIN, Proc. Zool. Soc. Lond., 1866, 68, 69 (Santa Fe, Veragua; coll. Salvin and Godman; also, Volcan de Chiriqui, Chitra, Calovevora, and Calobre, Veragua); 1867, 132 (Santa Fé, Veragua); 1870, 179 (do.)—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 6, pl. 1, fig. 2.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 287.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 50 (Boquete, Chiriqui, 4,000 to 4,800 ft.).

[*Catharus*] *griseiceps* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.—SHARPE, Hand-list, iv, 1903, 182.

[*Turdus*] *griseiceps* GRAY, Hand-list, i, 1869, 259, no. 3777.

CATHARUS GRACILIROSTRIS GRACILIROSTRIS Salvin.

SLENDER-BILLED NIGHTINGALE THRUSH.

Adults (*sexes alike*).—Pileum (sometimes forehead and crown only) dull, rather dark, brownish gray, the feathers with indistinct darker shaft-streaks; occiput, hindneck, and rest of upper parts plain brown (varying from dark raw-umber to mummy brown or nearly mars brown, the remiges and rectrices dull grayish brown with paler and

[a] Six specimens. [b] Three specimens.

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more decidedly brownish edgings; under parts plain gray (between no. 7 and smoke gray), passing into white on center of abdomen, the under tail-coverts tinged with buffy, the chest crossed by a broad band, more or less distinct, of light tawny-olive or raw-umber; bill black; iris dark brown; legs and feet dusky horn color.

Young.—Similar to adults, but abdomen more buffy whitish, the feathers of upper portion tipped with gray, forming indistinct bars, and under tail-coverts buff; no trace of spots or streaks on wing-coverts nor other upper parts.

Adult male.—Length (skins), 134–154 (142.6); wing, 73–78.5 (75.7); tail, 59.5–67 (62.9); exposed culmen, 12–13.5 (12.7); tarsus, 30–32.5 (31); middle toe, 15.5–18 (16.8).[a]

Adult female.—Length (skins), 130–145 (139.4); wing, 70–76 (73.4); tail, 54–63.5 (59.9); exposed culmen, 12–14 (13.2); tarsus, 30–31 (30.7); middle toe, 16.5–17 (16.9).[a]

High mountains of Costa Rica (Rancho Redondo; San Mateo; Volcan de Poás; Volcan de Irazú; Volcan de Turrialba; Rancho de Rio Jiménez).

Catharus gracilirostris SALVIN, Proc. Zool. Soc. Lond., 1864 (pub. Apr. 1, 1865), 580 (Volcan de Cartago, i. e., Volcan de Irazú, Costa Rica; coll. Salvin and Godman); 1866, 69 (Volcan de Irazú).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 90 (San Mateo, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 289 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (Volcan de Irazú, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 6, pl. 1, fig. 1.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 292.

[*Catharus*] *gracilirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.—SHARPE, Hand-list, i, 1903.

[*Turdus*] *gracilirostris* GRAY, Hand-list, i, 1869, 259, no. 3780.

CATHARUS GRACILIROSTRIS ACCENTOR Bangs.

CHIRIQUI NIGHTINGALE THRUSH.

Similar to *C. g. gracilirostris* but with bill decidedly larger and relatively much stouter.

Adult male.—Length (skins), 137–147 (141); wing, 71.5–77 (74.5); tail, 59–64 (61.7); exposed culmen, 13.5–14.5 (13.8); tarsus, 31.5–32 (31.8); middle toe, 17–17.5 (17.2).[b]

Adult female.—Length (skins), 134–141 (138); wing, 66–74 (70.9); tail, 56–61.5 (59.4); exposed culmen, 12–14.5 (13.3); tarsus, 30–31.5 (30.7); middle toe, 16.5–17.5 (17).[c]

High mountains of northern Panama (Boquete; Volcan de Chiriqui).

Catharus gracilirostris accentor BANGS, Proc. New Engl. Zool. Club, iii, Jan. 30, 1902, 50 (Volcan de Chiriqui, 5,000 to 11,000 ft.; coll. E. A. and O. Bangs).

[*Catharus*] *accentor* SHARPE, Hand-list, iv, 1903, 182.

[a] Ten specimens. [b] Three specimens. [c] Four specimens.

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Genus HYLOCICHLA Baird.

Hylocichla Baird, Review Am. Birds, June, 1864, 12. (Type, *Turdus mustelinus* Gmelin.)

Small, slender-billed, brown, spotted-breasted Turdidæ, with wing never more than three and a half times as long as tarsus; tail not more than three-fourths as long as wing and less than three times as long as tarsus; middle toe (without claw) not more than three-fifths as long as tarsus, and outermost primary usually shorter than primary coverts.

Bill about half as long as head (or less), slender (stouter in *H. mustelina*), slightly broader than deep at frontal antiæ; exposed culmen decidedly shorter than middle toe without claw, straight basally,[a] gradually and increasingly decurved terminally, the tip more or less distinctly uncinate; gonys faintly convex, ascending terminally, slightly longer than mandibular rami; maxillary tomium faintly convex posteriorly, faintly concave anteriorly, distinctly notched subterminally. Nostril more or less oval or ovate, narrower anteriorly, posteriorly in contact with frontal feathering, overhung by broad membrane. Rictal bristles distinct; loral feathers without distinct (if any) bristle-like tips. Wing rather long and pointed; outermost (tenth) primary very small, shorter than primary coverts and less than one-fourth as long as ninth (except in *H. guttata*); ninth primary longer than fifth (equal, or nearly equal, to seventh in *H. aliciæ* and *H. fuscescens*), the eighth, or eighth and seventh, longest; eighth, seventh, and sixth with outer webs sinuated (only the eighth and seventh in *H. ustulata*); longest primaries exceeding longest secondaries by length of tarsus, or more. Tail equal to or longer than distance from bend of wing to end of secondaries (except in *H. mustelina*), even or (in *H. ustulata*) very faintly emarginate, the rectrices (when not worn) slightly acuminate at extreme tip. Tarsus long and slender, less than one-third as long as wing, less than half as long as tail, the acrotarsium with both sides undivided; middle toe (without claw) three-fifths as long as tarsus or very slightly less; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer somewhat longer; hallux slightly shorter than inner toe; basal phalanx of middle toe united for more than basal half to outer toe, for less than basal half to inner toe; claws rather small, but well curved and sharp, that of hallux decidedly shorter than its digit.

Coloration.—Above plain brown or olive, sometimes more rufescent on pileum or tail; beneath whitish (usually more or less buffy anteriorly), the chest with triangular spots of brown, dusky, or black; young essentially like adults, but with pileum, back, etc., streaked with whitish, buffy, or pale rusty, longer wing-coverts tipped with the same, and (except in *H. mustelina*) spots on under part more transverse and extended backward over sides and flanks.

[a] Sometimes (especially in *H. aliciæ bicknelli*) the culmen is slightly depressed or concave immediately above the anterior end of nasal fossæ.

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Nidification.—Nest open above, more or less bulky, placed in low trees, in bushes, or on or near ground, composed of shreds of bark, dead leaves, dry grasses, etc., lined with finer shreds of bark, fine rootlets, etc., that of *H. mustelina* with a plastering of mud between lining and exterior; eggs (2–5) greenish blue, with or without brown spots.

Range.—Confined to the Nearctic Region[a] (one species extending its breeding range to eastern Siberia); south in winter to Cuba, Mexico, Central America, and South America. (Five species, with additional subspecies.)

Although usually considered as closely allied to *Turdus*, the relationships of this group seem to be decidedly with *Catharus*, an opinion first formed by careful examination of their structure and later confirmed by observation of four species of *Catharus* in life, the habits and songs of the *Cathari* (especially *C. frantzii* and *C. gracilirostris*) being strikingly similar to those of the *Hylocichlæ*.

KEY TO THE SPECIES AND SUBSPECIES OF HYLOCICHLA.

a. Bill larger and stouter, the exposed culmen more than half as long as tarsus; tail relatively shorter, less than distance from bend of wing to end of secondaries; outstretched feet reaching nearly, if not quite, to tip of tail; sides and flanks spotted; pileum more rufescent than back. (Eastern temperate North America, south in winter to Cuba, Jamaica, Porto Rico, and Nicaragua.) **Hylocichla mustelina** (p. 37)

aa. Bill smaller and more slender, the exposed culmen less than half as long as tarsus; tail relatively longer, equal to or longer than distance from bend of wing to end of secondaries; outstretched feet falling far short of tip of tail; sides and flanks not spotted; pileum concolor with back.

b. Outermost (spurious) primary equal to or longer than primary coverts; ninth primary shorter than sixth; tail and upper tail-coverts distinctly more rufescent than color of back. (*Hylocichla guttata.*)

c. Sides and flanks grayish or olivaceous; bill relatively smaller or more slender; tail relatively longer; feet relatively smaller. (Western subspecies.)

d. Smaller (wing averaging less than 90).

e. Wing averaging more than 86 in male, more than 84 in female; coloration darker and browner.

f. Coloration lighter, the back, etc., more olive, the chest more faintly tinged with buff, the sides and flanks more gray. (Breeding in coast district of Alaska, from Lynn Canal and north side of Cross Sound to Kadiak Island, Alaska peninsula, and Nushagak; in winter south to Lower California, Mexico, and Texas.).....**Hylocichla guttata guttata** (p. 39)

ff. Coloration darker, the back, etc., more sepia or olive-brown, chest more deeply buffy, sides and flanks more olive (Breeding in coast district of southern Alaska and British Columbia; south in winter to California and Arizona.).....**Hylocichla guttata nana** (p. 42)

[a] The Palæarctic *Turdus musicus* has been referred to *Hylocichla* by some authors, a view of its relationship which I at one time shared; but more recent and careful study has convinced me that it is much more nearly related to *Turdus* (an exclusively Old World type) and perhaps not separable from that genus. Among the characters which clearly exclude it from *Hylocichla* are the extremely minute spurious primary, relatively longer wing and middle toe and shorter tarsus (wing much more than three and a half times as long as tarsus, and middle toe, without claw, more than three-fifths as long as tarsus).

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ee. Wing averaging 84 in male, 81 in female; coloration paler and grayer. (Breeding in coast district of California; south in winter to Santa Margarita Island, Arizona, and Sonora.)

Hylocichla guttata sleveni (p. 44)

dd. Larger (wing averaging more than 90). (Coloration of *H. g. sleveni* or intermediate between that and *H. g. guttata*.)

e. Smaller (adult male averaging, wing 92.8, tail 71.8, exposed culmen 13.5, tarsus 28.4; adult female, wing 90.1, tail 67.7, exposed culmen 13.5, tarsus 28.6). (Breeding on Sierra Nevada and Cascade ranges and northward to Yukon River, Northwest Territory; migrating southward and eastward to Lower California, northern Mexico, Texas, and Wyoming.) ..... **Hylocichla guttata sequoiensis** (p. 44)

ee. Larger (adult male averaging, wing 102.4, tail 75, exposed culmen 15.1, tarsus 30.1; adult female, wing 99.4, tail 73.2, exposed culmen 14.4, tarsus 29.5). (Breeding in Rocky Mountain ranges of United States and British Columbia; south in winter over Mexico to highlands of Guatemala.)..... **Hylocichla guttata auduboni** (p. 46)

cc. Sides and flanks brown or buffy brown; color of back, etc., more buffy brown or isabelline; bill relatively larger and stouter; tail relatively shorter; feet relatively larger. (Breeding in British Provinces and northern United States east of Rocky Mountains; in winter south to Florida and Texas.).

Hylocichla guttata pallasii (p. 48)

bb. Outermost (spurious) primary much shorter than primary coverts; ninth primary much longer than sixth; tail and upper tail-coverts concolor with back.

c. A conspicuous orbital ring of buff; only two primaries (eighth and seventh) with outer web sinuated; tail not longer than distance from bend of wing to end of secondaries. (*Hylocichla ustulata.*)

d. Olive-brown above; spots on chest smaller or narrower, usually more brownish. (Pacific coast district, breeding from northern Lower California to southern Alaska; in winter southward through Mexico and Central America to Ecuador.).....**Hylocichla ustulata ustulata** (p. 52)

dd. Olive or grayish olive above; spots on chest larger or broader, more blackish. (North America except Pacific coast district; south in winter through Mexico and Central America to Colombia.)

Hylocichla ustulata swainsonii (p. 55)

cc. No orbital ring; three primaries (eighth, seventh, and sixth) with outer web sinuated; tail decidedly longer than distance from bend of wing to end of secondaries.

d. Middle toe (without claw) three-fifths as long as tarsus; tail two and a half times as long as tarsus; upper parts grayish brown or olive; spots on chest larger, blackish. (*Hylocichla aliciæ.*)

e. Larger (male averaging, wing 104, tail 73; female, wing 100, tail 67.7); color of upper parts grayer or clearer olive. (Northern and eastern North America, breeding from Labrador to Alaska; south in winter to Peru).

Hylocichla aliciæ aliciæ (p. 59)

ee. Smaller (male averaging, wing 92.1, tail 66.5; female, wing 88.6, tail 64.2); color of upper parts darker and browner. (Breeding on mountains of northeastern New York, New Hampshire, etc.; during migration southward to South Carolina, Illinois, etc.).. **Hylocichla aliciæ bicknelli** (p. 62)

dd. Middle toe (without claw) less than three-fifths as long as tarsus; tail more than two and a half times as long as tarsus; above tawny brown; spots on chest smaller, narrower, brownish. (*Hylocichla fuscescens.*)

e. Coloration brighter or clearer, the upper parts more decidedly tawny; streaks on chest usually lighter brown. (Eastern temperate North America.)

Hylocichla fuscescens fuscescens (p. 64)

ee. Coloration duller, the upper parts browner; streaks on chest usually darker brown. (Western United States and British Columbia.)

Hylocichla fuscescens salicicola (p. 67)

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HYLOCICHLA MUSTELINA (Gmelin).

WOOD THRUSH.

Adults in spring and summer.—Pileum tawny-brown or russet, passing into cinnamon-brown on back and scapulars, this into light olive or grayish olive on rump, upper tail-coverts, and tail; wings similar in color to back but slightly less cinnamomeous; a distinct orbital ring of white; lores whitish, suffused with dusky grayish in front of eye; auricular region dusky grayish brown, narrowly streaked with white; malar region white, more or less flecked with dusky; under parts white, more or less strongly tinged with buff on chest; a broad submalar streak of black or dusky along each side of throat; chest, sides, and flanks marked with large roundish or broadly guttate spots of brownish black; bill dusky horn color, the basal half (more or less) of mandible much paler (pale flesh color in life); iris dark brown; legs and feet pale yellowish brown (pale flesh color in life).

Adults in autumn and winter.—Similar to the spring and summer plumage but coloration brighter, and chest, together with lower throat and streaks of auricular region, etc., more deeply yellowish buff.

Young.—Essentially like adults, but pileum, hindneck, and upper back indistinctly streaked with pale tawny or ochraceous, lesser and middle wing-coverts with similar but more wedge-shaped streaks, greater coverts more or less distinctly tipped with the same, and spots on under parts less sharply defined, more sooty in color.

Adult male.—Length (skins), 174–196 (181); wing, 104.5–113 (109); tail, 67–77.5 (71.5); exposed culmen, 16–19 (17.1); tarsus, 30–33 (31.6); middle toe, 17.5–20.5 (19).[a]

Adult female.—Length (skins), 159–188 (177); wing, 103–109.5 (105.6); tail, 63–71.5 (67.9); exposed culmen, 16–18 (17); tarsus, 28.5–32 (30.1); middle toe, 17–19.5 (18.4).[b]

[a] Fifteen specimens.

[b] Ten specimens.

Specimens from the Mississippi Valley compare in average measurements with those from the Atlantic coast district as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic coast district	109.8	71.8	17.1	31.5	19
Five adult males from Mississippi Valley	107.3	70.7	17.1	31.7	18.8
FEMALES.					
Nine adult females from Atlantic coast district	105.8	67.9	17	30.1	18.4
One adult female from Mississippi Valley	104.5	68	17	30.5	19

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Eastern temperate North America; north to New Hampshire (White Mts.), New York (breeding at Lake George), northern Ontario (Elmsdale, Port Sydney, etc.), northern Michigan, etc., accidentally to Maine (Saco) and northeastern New York; west to middle portion of Great Plains (along wooded valleys); breeding southward to northern Florida and thence westward through Gulf States to eastern Texas; in winter southward, from eastern Texas (Harris County) through eastern Mexico and Central America to Nicaragua (Rio Escondido) and Costa Rica (Volcan de Miravalles), also to Bahamas (New Providence island; Cay Lobos), Cuba, Jamaica, and Porto Rico; straggler to the Bermudas.

[*Turdus*] *mustelinus* GMELIN, Syst. Nat., i, pt. 2, 1788, 817 (New York; based on *Tawny Thrush* Latham, Gen. Synop. Birds, ii, pt. i, 28; Pennant, Arct. Zool., ii, 337).—LATHAM, Index Orn., i, 1790, 331.—GRAY Hand-list, i, 1869,254, no. 3679.—COUES, Key N. Am. Birds, 1872, 72.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.—CORY, List Birds West Ind., 1885, 5.

Turdus mustelinus VIEILLOT, Ois. Am. Sept., ii, 1807, 6, pl. 62.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 75; Geog. and Comp. List, 1838, 17; Consp. Av., i, 1850, 270.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 343.—AUDUBON, Orn. Biog., i, 1832, 372; v, 1839, 446, pl. 73; Synopsis, 1839, 90; Birds Am., oct. ed., iii, 1841, 24, pl. 144.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 49.—GOSSE, Birds Jamaica, 1847, 144 (Jamaica?).—HURDIS, Jardine's Contr. Orn., 1850, 35 (Bermudas, Oct.).—WOODHOUSE, in Rep. Sitgreaves' Expl. Zuñi and Col. R., 1853, 72 (Indian Territory; Texas).—GUNDLACH, Journ. für Orn., 1855, 469 (Cuba); 1861, 324 (do.), 405 (crit.); 1872, 405 (Cuba); 1874, 310 (Porto Rico); 1879, 159 (do.); Orn. Cubana, 1893, 46.—SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Cordova, Vera Cruz); 1859, 325 (monogr.; Cordova; Guatemala; Cuba; Jamaica), 362 (Jalapa, Vera Cruz); Ibis, 1861, 282; Cat. Am. Birds, 1862, 2 (Pennsylvania; Coban, Guatemala).—MAXIMILIAN, Journ. für Orn., 1858, 179 (Missouri).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 212; Cat. N. Am. Birds, 1859, no. 148; Review Am. Birds, 1864, 13.—BLAND, Ann. Rep. Smithsonian Inst. for 1858 (1859), 287 (Bermudas).—SCLATER and SALVIN, Ibis, 1859, 6 (Guatemala).—MOORE, Proc. Zool. Soc. Lond., 1859, 55 (Omoa, Honduras).—MARTENS, Journ. für Orn., 1859, 212 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307 (Cuba).—HAYDEN, Trans. Am. Philos. Soc., xii, 1862, 158 (Missouri R.).—ALBRECHT, Journ. für Orn., 1862, 194, 201 (Jamaica).—MCILWRAITH, Proc. Essex Inst., v, 1866, 84 (Hamilton, Ontario).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (Orizaba; Vera Cruz, winter).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 124, 173 (Kansas).—COUES, Check List, 1873, no. 3; 2d ed., 1882, no. 6; Birds Northwest, 1874, 2.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 7, pl. 1, fig. 1; special ed., 1875, i, pl. facing p. 8.—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 11 (Tehuantepec City).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 17 (descr. young).—LOOMIS, Bull. Nutt. Orn. Club, iv, 1879, 210 (Chester Co., South Carolina; breeding).—SALVIN and GODMAN, Biol. Centr. Am., Aves, i, 1879, 9 (Choctum, Coban, Tactic, and Godines, Guatemala, etc.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 196.—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 6 (Harris Co., Texas, winter); Our Native Birds, etc., i, 1893, 3, pl. 1, fig. 5.—BICKNELL, Auk, i, 1884, 128 (song period).—GOODALE, Auk, ii, 1885, 215 (Saco, Maine, 1 spec., Sept. 6, 1884).—CORY, Auk, iii, 1886, 1 (Cuba; Jamaica?); Birds West Ind., 1889, 15;

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Cat. W. I. Birds, 1892, 122 (New Providence, Bahamas; Cuba; Jamaica; Porto Rico).—American Ornithologists' Union, Check List, 1886, no. 755.—Cooke, Bird Migr. Miss. Val., 1888, 282 (dates, etc.).—Salvin, Ibis, 1888, 242 (Cozumel and Mugeres islands, Yucatan).—Faxon, Auk, vi, 1889, 106 (Berkshire Co., Massachusetts, up to 2,400 ft.).—Ridgway, Orn. Illinois, i, 1889, 52; Auk, viii, 1891, 335 (New Providence, Bahamas, Apr. 16).—Richmond, Proc. U. S. Nat. Mus., xvi, 1893, 482 (Rio Escondido, Nicaragua, after Nov. 7).—Howe, Auk, xv, 1898, 332 (crit.), 333 (Chateaugay Lake, n. e. New York, 1 spec., Aug. or Sept.).—Wayne, Auk, xii, 1895, 366 (Wacissa R., n. w. Florida, breeding).—Underwood, Ibis, 1896, 432 (Volcan de Miravalles, Costa Rica).—Bonhote, Auk, xx, 1903, 170 (Cay Lobos, Bahamas, Apr. 15).—Hartert and Grant, Novit. Zool., xii, 1905, 115 (Azores, accidental).—Stockard, Auk, xxii, 1905, 284 (Mississippi; breeding).

T[urdus] mustelinus Gray, Gen. Birds, i, 1847, 219.—Cabanis, Mus. Hein., i, 1850, 5; Journ. für Orn., 1861, 324 (Cuba).—Coues, Key N. Am. Birds, 2d ed., 1884, 246.—Ridgway, Man. N. Am. Birds, 1887, 574.

M[erula] mustelina Blyth, Analyst, iv, 1836, 222.

Merula mustelinus Denny, Proc. Zool. Soc. Lond., 1847, 38.

Turdus (Hylocichla) mustelinus Coues, Birds Col. Val., 1878, 28.

Hylocichla mustelina Ridgway, Proc. U. S. Nat. Mus., iii, Aug. 27, 1880, 166; Nom. N. Am. Birds, 1881, no. 1.—Merriam, Bull. Nutt. Orn. Club, vi, 1881, 226 (Lewis Co., n. e. New York, straggler; breeding at Lake George).—American Ornithologists' Union Committee, Auk, xvi, 1899, 126.—Bailey (Florence M.), Handb. Birds W. U. S., 1902, 469.—Allen (G. M.), Proc. Manchester Inst., iv, 1902, 123 (New Hampshire, up to 2,000 ft., n. to White Mts.).—Allison, Auk, xxi, 1904, 484 (West Baton Rouge, Louisiana, breeding).—Todd, Proc. Carnegie Mus., ii, 1904, 572 (Erie Co., Pennsylvania, breeding).—Wood and Frothingham, Auk, xxii, 1905, 53 (Crawford and Oscoda counties, n. Michigan).

H[ylocichla] mustelina Ridgway, Bull. Ill. State Labr. N. H., no. 4, 1881, 171 (Illinois).—Coues, Key N. Am. Birds, 5th ed., i, 1903, 253.—Heine and Reichenow, Nom. Mus. Hein., 1890, 3 (Vera Paz, Guatemala).

[*Hylocichla*] *mustelina* Sharpe, Hand-list, iv, 1903, 141.

Hylocichla mustelinus Fleming, Auk, xviii, 1901, 45 (Elmsdale, Port Sydney, etc., n. Ontario).

Turdus melodus Wilson, Am. Orn., i, 1808, 35, pl. 2, fig. 1.—Lichtenstein, Preis-Verz. Mex. Vög., 1830, 2; Journ. für Orn., 1863, 57 (reprint).

Turdus melodius Bonaparte, Journ. Ac. Nat. Sci. Phila., iv, 1824, 33.

Turdus densus Bonaparte, Compt. Rend., xxxviii, 1854, 2 (Tabasco, Mexico); Notes Orn. Coll. Delattre, 1854, 26.

HYLOCICHLA GUTTATA GUTTATA (Pallas).

KADIAK DWARF THRUSH.

Adults in spring and summer.—Above plain grayish brown (hair brown to between hair brown and broccoli brown), the upper tail-coverts and tail dull cinnamon-brown or cinnamomeous wood brown; a conspicuous orbital ring of dull white; lores dull whitish mixed or suffused with dusky grayish; auricular region grayish brown, with very narrow shaft-streaks of dull whitish; malar region and under parts dull white, the chest and hinder part of malar region tinged, more or less strongly, with pale cream buff; a dusky or sooty submalar streak along each side of throat; sides of lower throat with

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narrow wedge-shaped streaks of dusky; chest with large triangular spots of dusky grayish brown or sooty, these more wedge-shaped on upper chest, broader and more rounded on lower chest; upper breast, especially on lateral portions, spotted with grayish brown or brownish gray; sides and flanks light brownish gray; bill dusky brown or blackish, the basal half (approximately) of mandible pale yellowish (pale grayish flesh color or lilaceous in life); iris dark brown; legs and feet light horn color (in dried skins).

Adults in autumn and winter.—Similar to spring and summer adults, but more brightly colored, the general color of upper parts more brownish (olive-brown), upper tail-coverts and tail more ruddy brown (chestnut-brown or mars brown), and chest more strongly buffy, with spots darker (sometimes nearly black).

Young.—Above brown, as in adults, but pileum, hindneck, back, scapulars, and lesser wing-coverts streaked with buffy, the upper tail-coverts broadly tipped with tawny-ochraceous, the middle wing-coverts with a mesial wedge-shaped or guttate mark of buff; under parts dull white, more or less strongly tinged with buff on chest, etc., the chest and sides of lower throat conspicuously spotted, the breast, upper abdomen, and sides barred, with black or dusky; a blackish submalar streak along each side of throat.

Adult male.—Length (skins), 140–163 (154); wing, 85.5–90.5 (87.8); tail, 61.5–69.5 (64.8); exposed culmen, 12–13.5 (12.7); tarsus, 27.5–30 (28.8); middle toe, 15.5–17 (16.1).[a]

Adult female.—Length (skins), 144–159 (153); wing, 81–84.5 (83.2); tail, 58.5–65 (62.8); exposed culmen, 12–13.5 (13.1); tarsus, 28–29.5 (28.6); middle toe, 15.5–16.5 (16.1).[b]

Breeding in the coast district of Alaska north of Cross Sound, from Point Gustavus, Juneau, etc., northward and westward to Kadiak Island, Alaska Peninsula, Nushagak, White Pass, etc.; in winter southward to Lower California (Sierra San Gertrude; La Paz; Casa Pintada), Sonora (Nacosari; Alamos; Baradehuachy), Chihuahua (Rio Chico), Tamaulipas (Sota la Maria), and Texas (El Paso; Concho, and Tom Green counties; San Antonio; Langtry; Leon Springs; mouth of Pecos River); migration route mostly coastwise, but including eastern Oregon (Fort Klamath, etc.), Nevada (upper Humboldt Valley), New Mexico (Fort Bayard), etc.

? [*Turdus*] *aonalaschkae* GMELIN, Syst. Nat., i, pt. 2, 1788, 808 (based on *Aoon-alashka Thrush* Latham, Synopsis Birds, ii, pt. 1, 23; *Unalascha Thrush* Pennant, Arctic Zool., ii, 338).

Turdus aonalaschkæ RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 1, part (crit.); Proc. U. S. Nat. Mus., xvi, 1893, 665 (Kadiak I., Alaska).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 200, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 759, part.—BRYANT (W. E.), Bull. Cal. Ac. Sci., ii, 1887, 316 (Guadalupe I., Lower California, 3 specs., Jan., Mar.).—

[a] Ten specimens. [b] Seven specimens.

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MERRILL (J. C.), Auk, v, 1888, 365 (Fort Klamath, Oregon, migrant).—BREWSTER, Auk, v, 1888, 365 (Fort Klamath; crit.).—COOKE, Bird Migr. Miss. Val., 1888, 286 (Concho and Tom Green counties, w. Texas, Sept. 20 to Oct. 10).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 694 (Leon Springs, Texas, Mar.).—ATTWATER, Auk, ix, 1892, 344 (San Antonio, Texas, migrant).—(?) SPRAGUE, Auk, xiii, 1896, 85 (Magnolia, Colorado, 1 spec., Oct. 6, 1895).

T[urdus] aonalaschkæ RIDGWAY, Man. N. Am. Birds, 1887, 576, part.

Hylocichla aonalaschkæ AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, Jan., 1899, 128.—OBERHOLSER, Proc. U. S. Nat. Mus., xxii, 1900, 234 (Santa Catalina I., California).—OSGOOD, North Am. Fauna, no. 21, 1901, 81 (Hope and Tyonek, Cook Inlet, Alaska).—GRINNELL (J.), Condor, ii, 1901, 22 (Kadiak; crit.).

[*Hylocichla*] *aonalaschkæ* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3.

H[ylocichla] aonalaschkæ COUES, Key N. Am. Birds, 5th ed., 1903, 254, part.

Hylocichla aonalaschkæ aonalaschkæ GRINNELL (J.), Pacific Coast Avifauna, no. 3, June 25, 1902, 73.

? [*Turdus*] *aoonalaschkæ* LATHAM, Index Orn., i, 1790, 329.

Hylocichla unalashkæ RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166, part.

Hylocichla unalascæ RIDGWAY, Nom. N. Am. Birds, 1881, no. 5, part.

Turdus unalascæ COUES, Check List, 2d ed., 1882, no. 8, part.

T[urdus] unalascæ COUES, Key N. Am. Birds, 2d ed., 1884, 247, part.

Hylocichla unalascæ RIDGWAY, Proc. U. S. Nat. Mus., v, 1883, 533, footnote (Cape St. Lucas, Jan.).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 145, part (Chugachik Bay, Cook Inlet; Kadiak I.; Wood I.).

Muscicapa guttata PALLAS, Zoogr. Rosso-Asiat., i, 1826, 465 (Kadiak I., Alaska).

Turdus guttatus CABANIS, in Tschudi's Fauna Peruana, Aves, 1847, 187, footnote, part.—RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 391, 396 (California).

[*Turdus guttatus*] *α. guttatus* RIDGWAY, Orn. 40th Parallel, 1877, 393 (upper Humboldt Valley, Nevada, Sept. 16).

Hylocichla guttata SCHALOW, Journ. für Orn., 1891, 25 (Alaska; synonymy; crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 330.—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 211 (Casa Pintada and Laguna, Lower California, Feb.; crit.).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 471.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 64 (Huachuca Mts., Arizona, Feb. to Apr.; crit.).—OSGOOD, North Am. Fauna, no. 24, 1904, 81 (Lake Clark and Nushagak, Alaska).—CHAPMAN, Bull. Am. Mus. N. H., xx, 1904, 406 (Muller Bay and Seldovia, Cook Inlet, Alaska).

[*Hylocichla*] *guttata* SHARPE, Hand-list, iv, 1903, 143, part.

Turdus nanus (not of Audubon) TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 153 (Columbia R.).—GAMBEL, Proc. Ac. Nat. Sci. Phila., i, 1843, 262 (Rocky Mts. and California).—HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1852, 265 (California, migrat.).—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 310 (New Mexico); xi, 1859, 106 (do.).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 213, part; Cat. N. Am. Birds, 1859, no. 150, part; Review Am. Birds, 1864, 15, part.—SCLATER, Proc. Zool. Soc. Lond., 1859, 4, 325, part (monogr.); Ibis, 1861, 282, part.—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 190 (Fort Tejon, California).—DRESSER, Ibis, 1865, 475 (San Antonio, Texas).—RIDGWAY, Proc. Ac. Nat. Sci. Phila., xxi, 1869, 129, part (crit.).—COOPER, Orn. Cal., 1870, 4, part.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 1, fig. 7.

[*Turdus*] *nanus* GRAY, Hand-list, i, 1869, 254, no. 3680.

Hylocichla nana COUES, Ibis, 1865, 163 (Arizona).

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Turdus (*Hylocichla*) *nanus* COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 65 (Fort Whipple, Arizona).

H[*ylocichla*] *nanus* RIDGWAY, Proc. Ac. Nat. Sci. Phila., 1869, 127, in text, part.

[*Turdus pallasii*.] Var. *nanus* COUES, Key N. Am. Birds, 1872, 72, part.

Turdus pallasi . . . var. *nanus* COUES, Check List, 1873, no. 4*b*.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 96 (Bowie, Arizona, Oct. 19–Nov. 5); Zool. Exp. W. 100th Merid., 1875, 146 (do.).

[*Turdus pallasii*] var. *nanus* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 170, in text (Wahsatch Mts., Utah, autumn).

Turdus pallasi, var. *nanus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 20, part; iii, 1874, 499 (*T. nanus* of Cooper stated to be *T. ustulatus*).

[*Turdus pallasi*] b. *nanus* COUES, Birds Northwest, 1874, 3, part (synonymy).

[*Turdus* (*Hylocichla*) *pallasi*] b. *nanus* COUES, Birds Col. Val., 1878, 21, part.

Turdus pallasi nanus RIDGWAY, Bull. Essex Inst., vii, 1875, 22 (upper Humboldt Valley, Nevada, Sept.).—HARTLAUB, Journ. für Orn., 1883, 269 (Portage Bay, Alaska).

Hylocichla aonalaschkæ auduboni (not *Turdus auduboni* Baird) GRINNELL (J.), Birds Pacific Slope, Los Angeles Co., 1898, 51 (see Condor, iv, 1902, 17).

T[*urdus*] *pallasii* CABANIS, in Wiegmann's Archiv. für Naturg., 1847 (i), 205, part (based on *Turdus guttatus* Cabanis, in Tschudi's Fauna Peruana, Aves, 187, footnote, based on *Turdus aonalaschkæ* Gmelin, *Muscicapa guttata* Pallas, *Turdus minor* Audubon and Bonaparte, and *Merula solitaria* Swainson).

HYLOCICHLA GUTTATA NANA (Audubon).

SITKAN DWARF THRUSH.

Similar to *H. g. guttata* but coloration darker and browner, the color of back, etc., more sepia brown, upper tail-coverts more russet, tail more chestnut, and spots on chest larger and darker.

Adult male.—Length (skins), 144–160 (151.3); wing, 84–90 (86.8); tail, 63.5–68 (65.5); exposed culmen, 11.5–13 (12.2); tarsus, 28–29.5 (28.8); middle toe, 16.5–17.5 (16.8).[a]

Adult female.—Length (skins), 145–156 (150); wing, 82–87.5 (84.4); tail, 61.5–67.5 (63.9); exposed culmen, 12–13.5 (13.1); tarsus, 28.5–29.5 (29); middle toe, 15.5–18 (16.6).[b]

Breeding in coast district of Alaska south of Cross Sound and British Columbia (including Queen Charlotte islands)—probably also to western Washington and Oregon; in winter southward to California (Redwood City; Humboldt Bay; Oakland; Sacramento; Riverside; San Bernardino, etc.), more rarely to Arizona (Santa Catalina Mountains, October 30; Huachuca Mountains, April 6; Fort Verde, November 9; Tucson, January 17) and New Mexico ("Mimbres to Rio Grande").

(?) *Turdus solitarius* (not of Wilson nor Linnæus) ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., vii, 1837, 193 (Columbia R.).

Turdus minor (not of Gmelin) AUDUBON, Birds Am., iv, 1838, pl. 419, fig. 1.[c]

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[a] Ten specimens.

[b] Eight specimens.

[c] See Coues, Birds Col. Val., 1878, 24; Osgood, Auk, xviii, 1901, 184, 185; Brewster, Bull. Mus. Comp. Zool., xli, no. 1 ("Birds of the Cape Region"), 1903, 213, 214.

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Turdus nanus AUDUBON, Orn. Biog., v, 1839, 201 (cites Birds Am., pl. 419, fig. 1; Columbia R.; type now in coll. Mus. Comp. Zool.);[a] Synopsis, 1839, 91; Birds Am., oct. ed., iii, 1841, 32, pl. 147.—TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 153 (Columbia R.).—(?) GAMBEL, Proc. Ac. Nat. Sci. Phila., i, 1843, 262, part (California).—HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1852, 265 (California, migratory).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 213, part; Cat. N. Am. Birds, 1859, no. 150, part; Review Am. Birds, 1864, 15 part.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 275 (Sitka, Alaska.)—COOPER, Orn. Cal., 1870, 4, part.

H[ylocichla] nanus RIDGWAY, Proc. Ac. Nat. Sci. Phila., 1869, 127, in text, part.

[*Turdus pallasii.*] Var. *nanus* COUES, Key N. Am. Birds, 1872, 72, part.

Turdus pallasi . . . var. *nanus* COUES, Check List, 1873, no. 4*b*, part.

Turdus pallasi, var. *nanus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 20, part.

[*Turdus pallasi*] b. *nanus* COUES, Birds Northwest, 1874, 3, part (in synonymy).

[*Turdus* (*Hylocichla*) *pallasi*] b. *nanus* COUES, Birds Col. Val., 1878, 21, part.

Hylocichla guttata nana BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, Sept., 1902, 212 (Sierra de la Laguna, Lower California, Apr. 27; Triunfo, Lower California, Dec. 5; crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, July, 1902, 331.—ANDERSON and GRINNELL, Proc. Ac. Nat. Sci. Phila., 1903, 14 (Siskiyou Mts., n. California).—STONE, Proc. Ac. Nat. Sci. Phila., 1904, 585 (Mount Sanhedrin, n. California).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 64 (Huachuca Mts., Arizona, 1 spec., Apr. 6).

H[ylocichla] g[uttata] nana BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 472, part.

[*Hylocichla*] *nana* SHARPE, Hand-list, iv, 1903, 143.

Turdus aonalaschkæ (not of Gmelin) RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 1, part (crit.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 200, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 759, part.—(?) ANTHONY, Auk, iii, 1886, 172 (Washington Co., Oregon, summer resident).—GRINNELL, (J.), Auk, xv, 1898, 130 (Sitka, breeding).

T[urdus] aonalaschkæ RIDGWAY, Man. N. Am. Birds, 1887, 576, part.

Hylocichla aonalaschkæ AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, Jan., 1899, 128, part.

H[ylocichla] aonalaschkæ COUES, Key N. Am. Birds, 5th ed., 1903, 254, part.

Hylocichla unalashkæ RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 27, 1880, 166, part.

Hylocichla unalascæ RIDGWAY, Nom. N. Am. Birds, 1881, no. 5, part.

Hylocichla unalascæ BEAN, Proc. U. S. Nat. Mus., v, 1882, 145, part (Sitka).

Turdus unalascæ COUES, Check List, 2d ed., 1882, no. 8, part.

T[urdus] unalascæ COUES, Key N. Am. Birds, 2d ed., 1884, 247, part.

Hylocichla aonalaschkæ verecunda OSGOOD, Auk, xviii, Apr., 1901, 183 (Cumshewa Inlet, Queen Charlotte Islands, British Columbia; coll. U. S. Nat. Mus.); North Am. Fauna, no. 21, 1901, 50 (Queen Charlotte Islands).—DAGGETT, Condor, iii, 1901, 131 (Los Angeles Co., California, 1 spec., Oct. 23).—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 73.

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[a] See Brewster, Bull. Mus. Comp. Zool., xli, no. 1, 1903, 213, 214.

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HYLOCICHLA GUTTATA SLEVENI (Grinnell).

MONTEREY HERMIT THRUSH.

Similar to *H. g. guttata*, but paler and grayer, and decidedly smaller.

Adult male (average measurements).—Wing, 84; tail, 71.[a]

Adult females (average measurements).—Wing, 81; tail, 69.[a]

"Breeds in the cloudy coast belt of California, from southern Monterey County northward, locally, at least, to Sonoma County;"[b] during migration southward to Los Angeles County (Pasadena, April) and to Santa Margarita Island, Lower California (February); Arizona (Tucson, April 6; Huachuca Mountains, April), and Sonora (Campos, February 3).

I am unable to give a more satisfactory diagnosis of this form, for the reason that no authentic specimens are available. A female in Mr. Brewster's collection (no. 20167) from Campos, Sonora (February 3, 1887) seems to belong to it; at least this specimen, while having the pale dull grayish coloration of *H. g. sequoiensis* is smaller than any specimen of either *H. g. guttata* or *H. g. nana* with which I have been able to compare it, its measurements being as follows: Wing, 82.5; tail, 63; exposed culmen, 13.5; tarsus, 28; middle toe, 15.

(?) *Turdus nanus* (not of Audubon) HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 45 (breeding near San Francisco, California).

Hylocichla aonalaschkæ sleveni GRINNELL (J.), Auk, xviii, July, 1901, 258 (Point Sur, Monterey Co., California; coll. Calif. Ac. Sci.); Pacific Coast Avifauna, no. 3, 1902, 73.—DAGGETT, Condor, iii, 1901, 131 (Pasadena, Los Angeles Co., California, Apr. 8 to 25).

Hylocichla guttata sleveni SWARTH, Pacific Coast Avifauna, no. 4, Apr. 15, 1904, 64 (Huachuca Mts., Arizona, Apr.; crit.).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 471, footnote.

[*Hylocichla*] *guttata* (not *Muscicapa guttata* Pallas) SHARPE, Hand-list, iv, 1903, 143, part.

HYLOCICHLA GUTTATA SEQUOIENSIS (Belding).

SIERRA HERMIT THRUSH.

Similar in coloration[c] to *H. g. sleveni*, but decidedly larger and slightly darker or browner; similar to *H. g. guttata*, but larger, paler, and grayer; similar to *H. g. auduboni*, but decidedly smaller.

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[a] Average measurements (of seven males and three females) by Mr. Grinnell (Auk, xviii, 259).

[b] Grinnell, Auk, xviii, 259.

[c] Both *H. g. sequoiensis* and *H. g. sleveni*, in addition to being paler and grayer on upper parts have the spots on chest, etc., lighter and duller in color.

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Adult male.—Length (skins), 146–167 (157); wing, 90–97 (92.8); tail, 68–74.5 (71.8); exposed culmen, 12–14.5 (13.5); tarsus, 26.5–30 (28.4); middle toe, 15–17 (16.6).[a]

Adult female.—Length (skins), 143–169 (159); wing, 86–94 (90.1); tail, 64–70 (67.7); exposed culmen, 13–14 (13.5); tarsus, 28–30 (28.6); middle toe, 16.5–18 (16.8).[b]

Breeding in Sierra Nevada and Cascade ranges and northward, from Mount Whitney, southern California, to Northwest Territory (Yukon River); during migration southward to Lower California (Casa Pintada, February), Sonora (Alamos, February), Chihuahua (Sierra Madre, October), Coahuila (Sierra Guadalupe, April), Nuevo Leon (Monterey, February 19 to May 1; Rodriguez, January), Tamaulipas (Soto la Maria, March; Linares, March; Victoria, March; Hidalgo, March), and western Texas (Frontera, May 8; Fort Clark, December; Langtry, April), eastward to Wyoming (Fort Bridger, May 19 to 24).

Turdus silens (not of Vieillot) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 922 part (Fort Bridger, Wyoming).

T[urdus] swainsoni ustulatus RIDGWAY, Bull. Essex Inst., vi, 1874, 172 (w. slope Sierra Nevada, 5,000 ft., July).

Turdus ustulatus (not of Nuttall) RIDGWAY, Orn. 40th Parallel, 1877, 334, in text, 395 (excl. synonymy and spec. no. 779).

Turdus sequoiensis BELDING, Proc. Cal. Ac. Sci., 2d ser., ii, June 11, 1889, not paged (Big Trees, Calaveras Co., California; coll. Calif. Ac. Sci.).

Hylocichla aonalaschkæ sequoiensis FISHER (W. K.), Condor, ii, Dec., 1900, 138 (Mount St. Helena, Napa Co., California).—BARLOW, Condor, iii, 1901, 184 (Sierra Nevada; song; descr. nests).—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 74.—RAY, Auk, xx, 1903, 192 (Lake Valley, California, in mountains; song, etc.).

Turdus aonalaschkæ (not of Gmelin) AMERICAN ORNITHOLOGISTS' UNION Check, List, 1886, no. 759, part.

T[urdus] aonalaschkæ RIDGWAY, Man. N. Am. Birds, 1887, 576, part.

[a] Twenty specimens.

[b] Ten specimens.

Average measurements of specimens from different geographic areas are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six breeding males from Sierra Nevada	92.8	73.3	14.1	28	16.5
Two breeding males from Yukon River, Northwest Territory	95.5	71.5	12.5	28.7	17
Two males from Sonora (February)	90	69	13	28.7	16.2
Ten males from Nuevo Leon, Coahuila, Tamaulipas, and Texas	92.8	71.5	13.4	28.5	16.6
FEMALES.					
Three breeding females from Sierra Nevada	89	66.2	13.8	28.8	16.7
Two females from Fort Bridger, Wyoming (May)	89.2	68.7	14	28.2	16
Five females from Lower California, Chihuahua, Arizona, and Tamaulipas	91.2	68.2	13.2	28.7	17.3

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Turdus aonalaschkæ auduboni (not *Turdus auduboni* Baird) Belding, Bull. Cooper Orn. Club, i, 1899, 21 (nesting in Sierra Nevada; descr. nest, etc.).—Beck, Condor, ii, 1900, 19 (near summit of Sierra Nevada, breeding; descr. nest).

Turdus nanus (not of Audubon) Baird, Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 9 (Frontera, Texas, May 8).

H[ylocichla] g[uttata] nana (not *Turdus nanus* Audubon) Bailey (Florence M.), Handb. Birds W. U. S., 1902, 472, part (Sierra Nevada, breeding).

HYLOCICHLA GUTTATA AUDUBONI (Baird).

ROCKY MOUNTAIN HERMIT THRUSH.

Similar in coloration to *H. g. sequoiensis*, but decidedly larger.

Adult male.—Length (skins), 162–183 (170); wing, 97–106 (102.4); tail, 71.5–79 (75); exposed culmen, 14–16 (15.1); tarsus, 28.5–31 (30.1); middle toe, 16–19 (17.5).[a]

Adult female.—Length (skins), 153–178 (165); wing, 96–106 (99.4); tail, 70–79.5 (73.2); exposed culmen, 13.5–15 (14.4); tarsus, 28–31 (29.5); middle toe, 16–18 (17.2).[b]

Breeding in Rocky Mountain district of United States and British Columbia, from New Mexico (upper Pecos River; Cloudcroft), Arizona (Chiricahua Mountains; San Francisco Mountains; Mogollon Mountains) and Lower California (Sierra de la Laguna) northward to eastern British Columbia (Nelson; Lake la Hache ?), and from main Rocky Mountain ranges in New Mexico, Colorado, Wyoming, and Montana westward to the Toyabe Mountains, Nevada; during migration southward over Mexican plateau to highlands of Guatemala (Coban; Volcan de Fuego, 10,000 to 12,000 feet; Hacienda Chancol), and to western and central Texas (Kendall, San Angelo, Tom Green, Cook, and Bexar counties).

[a] Twenty specimens.

[b] Seventeen specimens.

Specimens from different geographic areas compare as follows in average measurements:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten breeding males from Rocky Mountains of United States.	102.3	74.5	15.3	30.1	17.5
Two breeding males from Lower California (Sierra de la Laguna)	102.5	75	14.7	31	18.2
Six males (migrants) from Mexico	103.2	76	14.6	29.8	17.6
Two males (migrants) from Guatemala (Hacienda Chancol).	100.7	74.7	16	29.7	16.2
FEMALES.					
Eight females (mostly breeding) from Rocky Mountains	98.4	72.3	14.4	29.3	17.1
One breeding female from eastern British Columbia (Nelson).	97	75.5	13.5	29	16.5
Two breeding females from Lower California (Sierra de la Laguna	100	74	14.7	29.7	17.2
Seven females (migrants) from Mexico	100.5	73.7	14.1	29.8	17.4

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Merula silens (not *Turdus silens* Vieillot) SWAINSON, Philos. Mag., n. s., i, 1827, 647 (Temascaltepec, Mexico); Fauna Bor.-Am., ii, 1831, 186.

T[urdus] silens (not of Vieillot) GRAY, Gen. Birds, i, 1847, 219.—SCLATER, Ibis, 1861, 282 (table-land of Mexico).

Turdus silens SCLATER, Proc. Zool. Soc. Lond., 1858, 300 (La Parada, Oaxaca; crit.); 1859, 325 (monogr.); Cat. Am. Birds, 1862, 2 (Oaxaca).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 213, 922, part (Fort Bridger, Wyoming); Cat. N. Am. Birds, 1859, no. 149*a*, part.

Turdus (Turdus) pallasi silens GOODE, Bull. U. S. Nat. Mus., no. 20, 1883, 348.

Turdus pallasi (not of Cabanis) SCLATER, Proc. Zool. Soc. Lond., 1859, 325, part (Orizaba, Vera Cruz).—(?) SCLATER and SALVIN, Ibis, 1860, 272 (Coban, Guatemala).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 173 (mountains of Colorado, 8,000 ft. upward; Ogden, Utah).—MERRIAM, Sixth Ann. Rep. U. S. Geol. Surv. Terr., 1873, 713 (Utah).—TRIPPE, in Coues' Birds Northwest, 1874, 228 (mountains of Colorado, breeding from 1,200 ft. below timber line upwards; song, etc.).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 91 (Lake Co., Colorado).—(?) SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 13 (Coban, Guatemala).

[*Turdus*] *pallasi* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.

Turdus aonalaschkæ pallasii SCOTT, Auk., v, 1888, 167 (s. Arizona, probably breeding).—(?) RHOADS, Auk, x, 1893 24 (Lake la Hache, British Columbia, breeding; crit.).[a]

Turdus solitarius (not of Wilson nor of Linnæus) SCLATER, Proc. Zool. Soc. Lond., 1857, 212 (Orizaba).—WOODHOUSE, in Rep. Sitgreaves' Expl. Zuñi and Col. R., 1853, 72, part (New Mexico).—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 310 (New Mexico).

Turdus auduboni BAIRD, Review Am. Birds, June, 1864, 16 (Fort Bridger, Wyoming; coll. U. S. Nat. Mus.).—STEVENSON, Prelim. Rep. U. S. Geol. Surv. Terr. for 1870 (1871), 463 (Colorado).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 1, fig. 8.—SALVIN and GODMAN, Biol. Centr.-Am. Aves, i, 1879, 14 (pine forests Volcan de Fuego, Guatemala, 10,000 to 12,000 ft.; etc.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 198 ("California," etc.).

[*Turdus*] *audubonii* GRAY, Hand-list, i, 1869, 254, no. 3685.

Turdus audubonii ALLEN, Am. Nat. ii, 1868, 489 (crit.).—RIDGWAY, Proc. Ac. Nat. Sci. Phila., xxi, 1869, 129 (crit.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 542 (alp. reg. Vera Cruz; resident).—MERRIAM, Sixth Ann. Rep. U. S. Geol. Surv. Terr., 1873, 705, 713 (Fort Ellis, Montana; Utah).

[*Hylocichla*] *auduboni* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3 (La Parada, Oaxaca).

[*Turdus pallasii.*] Var. *audubonii* COUES, Key N. Am. Birds, 1872, 72.

Turdus pallasi . . . var. *auduboni* COUES, Check List, 1873, no. 4*a*.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1873 (1874), 71 (Fort Garland, Colorado; descr. nest); Zool. Exp. W. 100th Merid., 1875, 144 (Fort Garland and Pagosa, Colorado, May 30 to June 7, Sept. 19; Mount Graham, Arizona, July 3 to Sept. 25; habits, song, etc.).

Turdus pallasii var. *auduboni* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 170, in text (Wahsatch Mts., Utah, breeding).

Turdus pallasii . . . var. *auduboni* RIDGWAY, Bull. Essex Inst., v, 1873, 179 (Colorado).

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[a] Perhaps intergrades between *H. guttata nana* and *H. guttata auduboni;* probably not *H. guttata pallasii.*

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Turdus pallasi, var. *auduboni* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 21; iii, 1874, 499 (Fort Ellis, Montana, breeding; descr. nest and eggs).

Turdus pallasi auduboni RIDGWAY, Bull. Essex Inst., vii, Jan., 1875, 32 (Wahsatch Mts., Utah, breeding).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 152 (Colorado Springs, Colorado, Apr., May).

[*Turdus pallasi*] c. *audubonii* COUES, Birds Northwest, 1874, 3.

[*Turdus* (*Hylocichla*) *pallasi*] c. *auduboni* COUES, Birds Col. Val., 1878, 21.

Turdus guttatus, γ. *auduboni* RIDGWAY, Field and Forest, ii, May, 1877, 195 (Colorado).

[*Turdus guttatus*] β. *auduboni* RIDGWAY, Orn. 40th Parallel, 1877, 394 (Wahsatch Mts., Utah, breeding).

Tudus aonalaschkæ auduboni RIDGWAY, Proc. U. S. Nat. Mus., iii, Mar. 27, 1880, 1.—DREW, Bull. Nutt. Orn. Club, vi, 1881, 86 (San Juan Co., Colorado, breeding; song; descr. nest).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 759*a*.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 131 (Chachapa, Puebla, May).—COOKE, Bird Migr. Miss. Val., 1888, 286 (Boerne, San Angelo, and Tom Green Co., Texas; Gainesville, Texas, Mar. 20).—MEARNS, Auk, vii, 1890, 263 (Mogollon Mts., Arizona, breeding).—WILLIAMS, Auk, vii, 1890, 292, 293 (Montana; habitat; song).—ATTWATER, Auk, ix, 1892, 344 (San Antonio, Texas, migr., a few wintering).

Hylocichla unalashkæ auduboni RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166.

Hylocichla unalascæ auduboni RIDGWAY, Nom. N. Am. Birds, 1881, no. 5*a*.—HENSHAW, Auk, ii, 1885, 330 (Upper Pecos R., New Mexico, breeding).

Hylocichla aonalaschkæ auduboni AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, Jan., 1899, 128.

H[*ylocichla*] *a*[*onalaschkæ*] *auduboni* COUES, Key N. Am. Birds, 5th ed., 1903, 254.

Hylocichla guttata auduboni BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 212 (Sierra de la Laguna, Lower California, May, June, breeding ?; crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, ix, July, 1902, 330.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 64 (Huachuca Mts., Arizona, Apr., May).

T[*urdus*] *aonalaschkæ auduboni* RIDGWAY, Man. N. Am. Birds, 1887, 576.

Turdus unalascæ auduboni COUES, Check List, 2d ed., 1882, no. 9.—SCOTT, Auk, ii, 1885, 349 (Santa Catalina Mts., Arizona, breeding).

T[*urdus*] *u*[*nalascæ*] *auduboni* COUES, Key N. Am. Birds, 2d ed., 1884, 247.

[*Hylocichla*] *audubonii* RIDGWAY, Proc. Ac. Nat. Sci. Phila., June, 1869, 127, in text.

[*Hylocichla*] *auduboni* SHARPE, Hand-list, iv, 1903, 143.

HYLOCICHLA GUTTATA PALLASII (Cabanis).

HERMIT THRUSH.

Most like *H. g. nana* of the western subspecies, but upper parts of a lighter, more isabelline or cinnamomeous brown, spots on chest averaging larger, sides and flanks more buffy brown, and bill stouter; in size nearest *H. g. sequoiensis* but tail shorter and feet larger.

Adult male.—Length (skins), 155–173 (163); wing, 89–99 (94.4); tail, 66–75 (69.7); exposed culmen, 13.5–15.5 (14.4); tarsus, 29–32 (30.5); middle toe, 16.5–19 (17.6).[a]

[a] Sixteen specimens.

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Adult female.—Length (skins), 152–172 (161); wing, 86–96.5 (90.6); tail, 64.5–74 (66.4); exposed culmen, 13–15 (13.9); tarsus, 28.5–31.5 (29.7); middle toe, 16–19 (17.5).[a]

Eastern North America; breeding from Massachusetts (Marthas Vineyard; Taconic Mountains, Berkshire County, 1,000 to 2,900 feet), Connecticut (Bear Mountains; Norfolk; Litchfield ?), New York (Catskills, 2,300 to 2,600 feet; Peterboro; Lake Ronkonkoma, Long Island ?), mountains of Pennsylvania (Clearfield, Elk, and Monroe counties), Ontario, northern Michigan (Macinac Island), etc., northward to Labrador (Chateau Bay), and through Manitoba and Athabasca (Fort Chippewyan), to Mackenzie (Fort Simpson; Fort Resolution; Fort Smith); during migration southward to Gulf States (Florida to Texas[b]) and to Cuba,[c] wintering northward (regularly) to about 39°, occasionally to lower Hudson Valley, New York; accidental in Greenland (Amaraglik, near Godthaab, June, 1845) and in Europe (Heligoland, Belgium, Austria, etc.); occasional in Bermudas during migration.

Turdus solitarius (not of Linnæus) WILSON, Am. Orn., v, 1812, 95 (not pl. 43, fig. 2, which=*H. ustulata swainsonii*).—BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 275 (crit.); Geog. and Comp. List, 1838, 17; Consp. Av., i, 1850, 270.—AUDUBON, Synopsis, 1839, 91; Birds Am., oct. ed., iii, 1841, 29, pl. 146.—THIENEMANN, Rhea, i, 1846, 125 (Vienna, Austria !).—THOMPSON, Nat. Hist. Vermont, 1853, 80.—HOY, Proc. Ac. Nat. Sci. Phila., vi, 1853, 310 (Wisconsin).—BRYANT, Proc. Bost. Soc. N. H., vi, 1857, 117 (Nova Scotia).—WILLIS, Ann. Rep. Smithson. Inst. for 1858 (1859), 281 (Nova Scotia).—BLAND, Ann. Rep. Smithson. Inst. for 1858 (1859), 287 (Bermudas).—DEGLAND and GERBE, Orn. Eur., i, 1867, 426 (Europe, accidental).—TRIPPE, Proc. Essex Inst., vi, 1871, 115 (Minnesota).

[a] Twenty-three specimens.

Specimens from the Atlantic coast district compare with those from the Mississippi Valley and northern interior as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic coast district	94.7	70.5	14.3	30.7	17.9
Ten adult males from Mississippi Valley	93.8	68.4	14.4	30.2	17
FEMALES.					
Ten adult females from Atlantic coast district	89.9	65.2	14.3	30	17.8
Ten adult females from Mississippi Valley	91.7	67.7	13.7	29.5	17.2
Three adult females from Athabasca, Alberta, and Mackenzie	89	66	13.5	29.5	17.2

[b] Texas localities are as follows: San Antonio, January to March; Corpus Christi, March; Leon Springs, March; Gainesville, March; Fort Clark, December 27 (one specimen); Concho County, spring; Kendall County, March; extreme western localities represented by specimens examined are Cantonment Burgwyn, New Mexico (autumn or winter), and Grand Cache, Alberta, September 22.

[c] Not a single extralimital specimen seen by me.

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T[urdus] solitarius LAWRENCE (in Gundlach), Journ. für Orn., 1861, 406 (Cuba; crit.).

Merula solitaria SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 184 (not pl. "35"=37, which=*H. ustulata swainsonii !*).—BREWER, Proc. Bost. Soc. N. H., 1844, 191 (descr.; crit.).

Turdus minor (not of Vroeg, 1764, nor Gmelin, 1788) (?) VIEILLOT, Ois. Am., Sept., 1807, 7, pl. 63.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 33 (=*T. solitarius* Wilson); Ann. Lyc. N. Y., ii, 1826, 75.—NAUMANN, Isis, 1826, 520 (Germany); Féruss. Bull., 2e sect., xiii, 1828, 357 (do.).—BREHM, Vög. Deutschl., 1831, 393.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 346.—AUDUBON, Orn. Biog., i, 1832, 303, pl. 58; v, 1839, 445.—DERBY, Zoologist, vi, 1848, 1966 (Belgium).—(?)REINHARDT, Journ. für Orn., 1854, 427, 439 (Greenland); Ibis, 1861, 6 (Amaraglik, near Godthaab, Greenland, 1 sp., June, 1845).

Turdus guttatus (not *Muscicapa guttata* Pallas) CABANIS, in Tschudi's Fauna Peruana, Aves, 1844–46, 187, footnote, part. (See under *Turdus pallasii* Cabanis.)

Turdus nanus AUDUBON, Orn. Biog., v, 1839, 201, part (Pennsylvania, etc.); Synopsis, 1839, 91; Birds Am., oct. ed., iii, 1841, 32.—TRIPPE, Am. Nat., ii, 1868, 380 (New Jersey; see Allen, Am. Nat., ii, 1868, 488, 489; Maynard, Am. Nat., iii, 1869, 662, 663).—BICKNELL, Auk, i, 1884, 131 (song period).

Turdus unalascæ nanus COUES, Check List, 2d ed., 1882, no. 10.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 234 (Point de Monts, Quebec, breeding).

T[urdus] u[nalascæ] nanus COUES, Key N. Am. Birds, 2d ed., 1884, 247.

T[urdus] pallasii CABANIS, in Wiegmann's Archiv. für Naturg., 1847 (i), 205, part (based on *Turdus guttatus* Cabanis, in Tschudi's Fauna Peruana, Aves, p. 187, footnote, this based on *Turdus aonalaschæ* Gmelin, *Muscicapa guttata* Pallas, *Turdus minor* Audubon and Bonaparte, and *Merula silens* Swainson).—NELSON, Bull. Essex Inst., viii, 1876, 93 (n. e. Illinois, Apr. 1 to May 10, Sept. 20 to October 31).

Turdus pallasii HOMEYER, Rhea, ii, 1849, 147 (monogr.).—GUNDLACH, Journ. für Orn., 1855, 470 (Cuba); 1861, 405 (do.; crit.).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 212; Cat. N. Am. Birds, 1859, no. 149; Review Am. Birds, 1864, 14.—VERRILL, Proc. Essex Inst., iii, 1862, 145 (Oxford Co., Maine); Proc. Bost. Soc. N. H., ix, 1862, 137 (Anticosti).—McILWRAITH, Proc. Essex Inst., v, 1866, 84 (Hamilton, Ontario).—MAYNARD, Proc. Bost. Soc. N. H., xiv, 1871 (Maine and New Hampshire, breeding).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 254, excl. synonymy, part (e. Florida, winter).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 1, fig. 6.

Turdus pallasi SCLATER, Proc. Zool. Soc. Lond., 1859, 325 (monogr.).—RIDGWAY, Proc. Ac. Nat. Sci. Phila., 1869, 128 (crit.).—MAYNARD, Birds Florida, 1872, 8.—COUES, Check List, 1873, no. 4.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 18.—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 17 (descr. young).—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 33 (lower Hudson Valley, winter).—SEEBOHM, Ibis, 1872, 7 (Heligoland, accidental).

T[urdus] pallasi CABANIS, Mus. Hein., i, 1850, 5.

[*Turdus*] *pallasi* SCLATER, Ibis, 1861, 282 (e. North America).

Turdus pallacii ALLEN, Proc. Essex Inst., iv, 1864, 36.

[*Turdus pallasi*] var. *pallasi* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 7.

[*Turdus pallasi*] a. *pallasi* COUES, Birds Northwest, 1874, 2, excl. syn. part.

[*Turdus* (*Hylocichla*) *pallasi*] a. *pallasi* COUES, Birds Col. Val., 1878, 20, excl. syn. part.

T[urdus] guttatus pallasi RIDGWAY, Orn. 40th Parallel, 1877, 395, in text.

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Hylocichla guttata pallasii Howe, Auk, xviii, Jan., 1901, 111 (Marthas Vineyard, Massachusetts, breeding).—American Ornithologists' Union Committee, Auk, xix, 1902, 330.—Allen (G. M.), Proc. Manchester Inst., iv, 1902, 184 (New Hampshire, up to 3,000 feet).—Blake (F. G. and M. C.), Auk, xxi, 1904, 392 (Brookline and Chestnut Hill, Massachusetts, Jan., 1904).

Turdus aonalashkæ pallasi Ridgway, Proc. U. S. Nat. Mus., iii, Mar. 27, 1880, 1.—Lloyd, Auk, iv, 1887, 298 (Concho Co., Texas, 1 spec., spring).—Nehrling, Our Native Birds, i, 1893, 22, pl. 1, fig. 2.

Hylocichla unalashkæ pallasi Ridgway, Proc. U. S. Nat. Mus., i, Aug. 24, 1880, 166.

Hylocichla unalascæ pallasi Ridgway, Nom. N. Am. Birds, 1881, no. 5*b*.—Brown (N. C.), Auk, i, 1884, 121 (Boerne, Kendall Co., Texas, 1 spec., Mar. 16).

H[ylocichla] unalascæ pallasi Ridgway, Bull. Ill. State Labr. N. H., no. 4, 1881, 171 (Illinois).

Turdus aonalaschkæ pallasii American Ornithologists' Union, Check List, 1886, no. 759*b*.—Seton, Auk, iii, 1866, 328 (Turtle Mt., Big Plain, Portage la Prairie, etc., Manitoba, summer).—Dutcher, Auk, iii, 1886, 443 (Lake Ronkonkoma, Long Island; breeding?).—Chadbourne, Auk, iv, 1887, 108 (White Mts., New Hampshire).—Beckham, Proc. U. S. Nat. Mus., x, 1888, 695 (San Antonio, Texas, Jan., Mar.).—Cooke, Bird Migr. Miss. Val., 1888, 286 (wintering s. Illinois southward).—Faxon, Auk, vi, 1889, 46 (mountains Berkshire Co., Massachusetts, breeding; Bear Mt., Salisbury, Connecticut, breeding); Auk, vi, 1889, 107 (Berkshire Co., Massachusetts, breeding at 1,000 to 2,900 ft.).—Bishop, Auk, vi, 1889, 149 (Magdalen Islands, breeding.)—Ridgway, Orn. Illinois, i, 1889, 62.—Thompson, Proc. U. S. Nat. Mus., xii, 1890, 634 (Manitoba, common summer resid.).—Batchelder, Auk, vii, 1890, 295 (Catskill Mts., New York, breeding at 2,300 to 2,600 ft.).—Dwight, Auk, ix, 1892, 14 (Wopsonanock Mt., Pennsylvania, breeding; song); x, 1893, 15 (Prince Edward I., breeding; habits; song).—Woodruff, Auk, ix, 1892, 202 (Litchfield, Connecticut; breeding?).—Attwater, Auk, ix, 1892, 344 (San Antonio, Texas, winter resid.).—Todd, Auk, x, 1893, 46 (Clearfield Co., Pennsylvania, breeding).—White, Auk, x, 1893, 230 (Macinac I., Michigan, breeding).—Sage, Auk, x, 1893, 371 (Norfolk, Connecticut, breeding).—Nutting, Bull. Labr. N. H. State Univ. Iowa, ii, 1893, 279 (Grand Rapids, lower Saskatchewan, breeding; song).—Stone, Auk, xi, 1894, 182 (Pocono Mts., Monroe Co., Pennsylvania, breeding).—Baily, Auk, xiii, 1896, 297 (n. Elk Co., Pennsylvania, breeding).—Norton, Proc. Portland Soc. N. H., ii, 1901, 156 (Chateau Bay, Labrador, July 14).

T[urdus] aonalaschkæ pallasii Ridgway, Man. N. Am. Birds, 1887, 576.

Hylocichla unalascæ pallasi Ridgway, Nom. N. Am. Birds, 1881, no. 5*b*.—Brown (N. C.), Auk, i, 1884, 121 (Boerne, Kendall Co., Texas, 1 spec., Mar. 16).

H[ylocichla] unalascæ pallasi Ridgway, Bull. Ill. State Labr. N. H., no. 4, 1881, 171 (Illinois).

Hylocichla aonalaschkæ pallasii American Ornithologists' Union Committee, Auk, xvi, Jan., 1899, 128.

H[ylocichla] a[onalaschkæ] pallasi Coues, Key N. Am. Birds, 5th ed., 1903, 254.

[*Hylocichla*] *pallasi* Heine and Reichenow, Nom. Mass. Hein. Orn., 1890, 3.—Sharpe, Hand-list, iv, 1903, 143.

T[urdus] a[onalascæ] nanus Coues, Key N. Am. Birds, 2d ed., 1884, 247.

Hylocichla aonalaschkæ nanus Osgood, Auk, xviii, Apr., 1901, 185, in text.

H[ylocichla] unalascæ (not *Turdus aonalaschkæ* Gmelin) Jordan, Man. Vertebr. E. U. S., 4th ed., 1884, 47.

(?) *Turdus brunneus* "Gmel[in]" Brewer, Proc. Boston Soc. N. H., vi, 1853, 304 (crit.; descr. nest and eggs).[a]

[a] The two species, *Hylocichla guttata pallasii* and *H. ustulata swainsonii* are, however, so inextricably involved in Doctor Brewer's article that it is difficult to understand which he would designate as "*Turdus brunneus* Gmel."

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HYLOCICHLA USTULATA USTULATA (Nuttall).

RUSSET-BACKED THRUSH.

Adults in spring and summer.—Above plain olive-brown (varying from nearly hair brown to between broccoli brown and raw-umber);[a] a conspicuous orbital ring and loral region pale buff, the latter more or less obscured with olive-brownish, especially near central portion; auricular region olive-brown, with narrow shaft-streaks of pale buff or buffy whitish; malar region buffy, more or less distinctly streaked or suffused with olive-brownish; chin, throat, and chest buff (more or less deep), the chin and throat sometimes buffy white, the sides of lower throat and whole chest with triangular marks of deep olive-brown, these markings narrower and more wedge-shaped anteriorly, broader posteriorly, those on middle or central portion of chest darker, sometimes approaching a sooty hue; a submalar streak of olive-brown along each side of throat; breast, abdomen, and under tail-coverts white, the upper portion of the first (especially on lateral portions) transversely spotted with light olive-brown; sides and flanks pale olive-brown or broccoli brown; axillars pale olive-brownish, narrowly tipped with paler and becoming paler and more buffy basally; under wing-coverts pale buffy, suffused with pale brownish; bill dusky brown or blackish, the basal half (approximately) of mandible pale (pale dull fleshy or lilaceous in life); iris deep brown; legs and feet pale brownish (in dried skins).

Adults in autumn and winter.—Similar to the spring and summer plumage, but more deeply or brightly colored, the brown of upper parts varying from olive-brown to russet-brown,[b] buff of anterior under parts deeper, and under tail-coverts tinged with buff.

Young.—Above olive-brown, the remiges and rectrices as in adults, but pileum, hindneck, back, scapulars, and lesser wing-coverts streaked with buff, rump and upper tail-coverts indistinctly streaked or spotted with pale tawny, the middle and greater wing-coverts tipped (more or less distinctly) with buff or pale tawny; under parts much as in adults, but markings all distinctly transverse, except (sometimes) on extreme upper chest and sides of lower throat, the sides, and flanks (sometimes also lower breast and sides of abdomen) barred or transversely spotted with olive-brown or dusky; under tail-coverts pale grayish buffy.

Adult male.—Length (skins), 161–185 (173); wing, 93–103.5 (97.8); tail, 67–79.5 (73); exposed culmen, 13–15 (13.9); tarsus, 27–31 (28.2); middle toe, 16–18.5 (17.4).[c]

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[a] I find, after examination of a very large series of specimens, that the variation in color is not at all geographical, the extremes occurring together, even during the breeding season.

[b] Between raw-umber and russet of Ridgway's Nomenclature of Colors.

[c] Thirty-four specimens.

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Adult female.—Length (skins), 156–179 (167); wing, 88.5–98 (94.5); tail, 64.5–72.5 (68.6); exposed culmen, 13–14.5 (13.6); tarsus, 26–29.5 (28.1); middle toe, 15.5–17.5 (16.5).[a]

Breeding in Pacific coast district of United States, British Columbia, and southern Alaska, from southern California (San Diego and San Bernardino counties), probably also northern Lower California, to Juneau, Alaska; during migration southward through western Mexico (Tres Marias Islands; Papayo and Acapulco, Guerrero; Pluma, Oaxaca; Chicharras, Chiapas) through Guatemala (Coban; Dueñas; Costa Grande; Barranco Hondo), Costa Rica (Volcan de Miravalles), etc., to eastern Ecuador (Archidona; Napo) and British Guiana (Roraima).

Turdus ustulatus NUTTALL, Man. Orn. U. S. and Canada, Land Birds, ed. 2, 1840, pp. vi, 830 (Columbia R.; type in coll. U. S. Nat. Mus.; misprinted *cestulatus* on p. 400).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 215; ed. 1860 (Birds N. Am.), pl. 81, fig. 1; Cat. N. Am. Birds, 1859, no. 152; Review Am. Birds, 1864, 18.—SCLATER, Proc. Zool. Soc. Lond., 1859, 326 (monogr.).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 171 (Washington, west of Cascade Mts.).—BROWN, Ibis, 1868, 420 (Vancouver I.).—RIDGWAY, Proc. Ac. Nat. Sci. Phila., xxi, 1869, 127 (crit.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 275 (Sitka, Alaska).—COOPER, Orn. Cal., 1870, 5.—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1872, 276 (Tres Marias islands, w. Mexico, Jan.).—BAIRD, BREWER and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 1, fig. 2.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 266 (Tres Marias).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 11 (Coban, Dueñas, and Costa Grande, Guatemala).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 203 (Todalgo Bay).—SALVIN, Ibis, 1885, 197 (Roraima, British Guiana).—BREWSTER, Auk, ii, 1885, 85 (Camp Lowell, Arizona, May 21).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 758.—ANTHONY, Auk, iii, 1886, 172 (Washington Co., Oregon, breeding).—MORCOM, Bull. Ridgw. Orn. Club, no. 2, 1887, 57 (Coahuila Valley; Yuma, Arizona; breeding in San Bernardino Valley).—MERRILL, Auk, v, 1888, 365 (Fort

[a] Twenty-two specimens.

Specimens from separate geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Sitka district, Alaska	97.4	71.4	13.5	28.7	17.8
Eight adult males from British Columbia	97.9	71	13.6	28.6	17.1
Ten adult males from Marin County, California	97.4	74.1	13.7	29	17.3
Eight adult males from San Diego County, California, and northern Lower California	98	71.1	14.3	28.6	17.6
FEMALES.					
One adult female from Sitka district	94.5	69	13.5	27.5	16.5
Five adult females from British Columbia	92.7	67.3	13.7	28.3	16.1
Ten adult females from San Diego County, California	95.5	69.4	13.7	27.8	16.7

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Klamath, Oregon, breeding).—UNDERWOOD, Ibis, 1896, 432 (Volcan de Miravalles, Costa Rica).—GRINNEL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 51 (Los Angeles Co., California, summer res.); Auk, xv, 1898, 130 (Sitka, breeding).

T[urdus] ustulatus GUNDLACH, Journ. für Orn., 1861, 405 (synonymy).—COUES, Key N. Am. Birds, 2d ed., 1884, 247.—RIDGWAY, Man. N. Am. Birds, 1887, 575.

[*Turdus*] *ustulatus* GRAY, Hand-list, i, 1869, 254, no. 3683.—SCLATER, Ibis, 1861, 282.

[*Turdus swainsonii.*] Var. *ustulatus* COUES, Key N. Am. Birds, 1872, 73.

Turdus swainsoni . . . var. *ustulatus* COUES, Check List, 1873, no. 5*b*.

Turdus swainsoni, var. *ustulatus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 16.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1876, 227 (Santa Barbara, California, breeding).—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 354 (California).

[*Turdus swainsoni*] c. *ustulatus* COUES, Birds Northwest, 1874, 4.

[*Turdus* (*Hylocichla*) *swainsoni*] c. *ustulatus* COUES, Birds Col. Val., 1878, 35.

Turdus swainsoni ustulatus RIDGWAY, Bull. Essex Inst., vii, Jan., 1875, 17 (lower Truckee Valley, Nevada, June 2).—GOODE, Bull. U. S. Nat. Mus., no. 20, 1883, 348.

H[ylocichla] ustulatus RIDGWAY, Proc. Ac. Nat. Sci. Phila., June, 1869, 127, in text.

[*Turdus ustulatus*] *α. ustulatus* RIDGWAY, Orn. 40th Parallel, 1877, 395, part (specimen from Truckee River).[a]

Hylocichla ustulata RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166; Nom. N. Am. Birds, 1881, no. 4.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 127.—NELSON, North Am. Fauna, no. 14, 1899, 60 (Tres Marias Islands, Jan.).—OSGOOD, North Am. Fauna, no. 21, 1901, 50 (Queen Charlotte Islands).—RATHBUN (S. F.), Auk, xix, 1902, 140 (Seattle, Washington, breeding).—BREWSTER, Bull. Comp. Zool., xli, 1902, 210 (Sierra de la Laguna, Lower California, May 4–16; crit.).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 470.—RAY, Auk, xx, 1903, 192 (Echo, California, breeding at 5,700 ft.).—SNODGRASS, Auk, xxi, 1904, 233 (Yakima R., Washington, abundant; Pullman, Whitman Co., Washington; song).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 63 (Huachuca Mts., Arizona, spring).

Hylocichla ustulatus ustulatus GRINNELL (J.), Pacific Coast Avifauna, no. 3, June 25, 1902, 73.

[*Hylocichla*] *ustulata* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3 (Guatemala).—SHARPE, Hand-list, iv, 1903, 142.

H[ylocichla] ustulata COUES, Key N. Am. Birds, 5th ed., i, 1903, 255.

Turdus cestulatus (typographical error) NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 400.

Turdus wilsonii (not of Bonaparte) TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 153 (Columbia R.).

Turdus solitarius (not of Linnæus) HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1852, 265 (California; breeding).

(?) *Turdus minor* (not of Gmelin) SCLATER, Proc. Zool. Soc. Lond., 1857, 212 (Orizaba, Vera Cruz).

Turdus minor SCHALOW, Journ. für Orn., 1861, 252 (Sitka, Alaska).

Turdus nanus (not of Audubon) (?) HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 45 (San Francisco, California, breeding).—COOPER, Orn. Cal., 1870, 4, part (descr. eggs).

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[a] The account of birds observed and heard singing in pine forests of the Sierra Nevada, as described on page 396, refers to *H. guttata sequoiensis*.

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Turdus swainsoni (not of Cabanis) LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 11 (Tehuantepec).

[*Turdus*] *swainsoni* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

Hylocichla ustulata oedica OBERHOLSER, Auk, xvi, Jan., 1899, 23 (Santa Barbara, California; coll. U. S. Nat. Mus.).—BELDING, Bull. Cooper Orn. Club, i, 1899, 29 (note on song).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899,127 (check list no. 758*b*).

H[ylocichla] u[stulata] oedica BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 470.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 255.

HYLOCICHLA USTULATA SWAINSONII (Cabanis).

OLIVE-BACKED THRUSH.

Similar to *H. u. ustulata*, but color much grayer or more olivaceous; color of upper parts varying from olive to grayish hair brown in summer, from deep olive to slightly brownish olive in winter; spots on chest averaging broader and darker (sometimes sooty blackish) on a more yellowish buff or creamy buff ground color; sides and flanks olive or grayish olive.

Adult male.—Length (skins), 158–176 (166); wing, 96.5–105 (100.9); tail, 66–77.5 (70.1); exposed culmen, 11.5–14.5 (13); tarsus, 26–31 (28); middle toe, 15–18 (16.6).[a]

Adult female.—Length (skins), 147–173 (161); wing, 92.5–102.5 (97); tail, 61.5–74 (66.1); exposed culmen, 11.5–14 (13.8); tarsus, 25.5–29 (27.1); middle toe, 15.5–18 (16.4).[b]

[a] Thirty-five specimens.

[b] Thirty-two specimens.

Specimens from different geographic areas average, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic coast district	100.2	69.3	13.1	27.6	16.6
Six adult males from Mississippi Valley, etc	99.2	68.6	13.1	27.9	16.5
Nine adult males from Rocky Mountain district	101.8	72.6	13.2	27.7	16.6
Ten adult males from Alaska	101.7	69.5	12.7	28.7	16.4
FEMALES.					
Ten adult females from Atlantic coast district	96.9	66.5	12.9	27.5	16.7
Five adult females from Mississippi Valley	97.1	66.4	13	27.2	16.6
Seven adult females from Rocky Mountain district	97.1	69.7	13.1	26.7	16.1
Ten adult females from Alaska	97.1	65.5	12.6	26.9	16.4

I am not able to discover any constant difference between eastern specimens, on the one hand, and western and Alaskan specimens, on the other. In fact, when specimens of corresponding date are compared the average difference, if any exists at all (there is certainly none in autumnal examples and little, if any, in those taken in spring), is too slight, in my judgment, to warrant the recognition of two geographic forms or subspecies. A considerable series of specimens taken in Alaska in July look grayer than a smaller number taken in the mountains of Pennsylvania in June; but even allowing for the greater abrasion and fading of the former, occasional specimens from the two regions are practically identical.

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North America in general except Pacific coast district south of Cross Sound and Lynn Canal; breeding from Massachusetts (Berkshire County, 2,000 to 3,500 feet), mountains of eastern New York (Catskills), Pennsylvania (Clinton and McKean counties), and West Virginia (spruce belt), northern Michigan (Macinac Island), Colorado (Rocky Mountains), Utah (Uintah and Wahsatch mountains), Nevada (East Humboldt Mountains), and California (Sierra Nevada) northward to Alaska (Kenai Peninsula; Iliamna district; Yukon Valley; Kowak Valley, etc.), Yukon Territory (Dawson; Lake Marsh; Lake Lebarge; Caribou Crossing), Mackenzie (Fort Rae; Fort Smith; Fort Resolution) and shores of Hudson Bay; in migration southward over whole of Mexico and Central America to Peru (Monterico; Chamicuros; La Gloria; La Merced; Tamiapampa; Huambo), Bolivia (Yungas), Brazil (Cocuy; Maribatanas), and Argentina (Lules); occasional in Bermudas and Cuba.

[*Turdus*] *minor* (not of Vroeg, 1764) GMELIN, Syst. Nat., i, pt. 2, 1788, 809, part (based on *Little Thrush* Latham, Synopsis Birds, ii, pt. i, 20,=*H. fuscescens*, and Pennant, Arct. Zool., ii, 338,=the present species).—LATHAM, Index Orn., i, 1790, 328, part.

Turdus minor VIEILLOT, Ois. Am. Sept., ii, 1807, 7, part, pl. 63.—BONAPARTE, Geog. and Comp. List, 1838, 17, excl. syn. pt. (quotes Fauna Bor.-Am. pl. 36,=*H. fuscescens*); Consp. Av., i, 1850, 271.—(?) REINHARDT, Journ. für Orn., 1854, 427 (Greenland); Ibis, 1861, 6 (do.).—SCLATER, Proc. Zool. Soc. Lond., 1857, 212 (Orizaba, Vera Cruz).

Turdus solitarius (not of Linnæus) WILSON, Am. Orn., v, 1812, pl. 43, fig. 2 (but not text, p. 95).—JARDINE, Contr. Orn., 1848, (Bermudas).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 106 (South Carolina).

Merula wilsonii (not *Turdus wilsoni* Bonaparte) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 182, excl. syn. part.

T[*urdus*] *olivaceus* (not of Linnæus) D'ORBIGNY and LAFRESNAYE, Synopsis Avium (Mag. de Zool., 1839), 17 (Yungas, Bolivia).—LAWRENCE (in Gundlach), Journ. für Orn., 1861, 406.

Merula olivacea (not *Turdus olivaceus* Linnæus) BREWER, Proc. Bost. Soc. N. H., i, 1844, 191 (descr.; crit.).—THOMPSON, Nat. Hist. Vermont, 1853, app. p. 22.

Turdus olivaceus (not of Linnæus) GIRAUD, Birds Long I., 1844, 92.—HURDIS, Jardine's Contr. Orn., 1850, 36 (Bermudas, 2 specs.).—BRYANT, Proc. Bost. Soc. N. H., vi, 1857, 117 (Nova Scotia).—WILLIS, Ann. Rep. Smithson. Inst. for 1858 (1859), 281 (Nova Scotia).—MARTENS, Journ. für Orn., 1859, 212 (Bermudas).

Turdus swainsonii CABANIS, in Tschudi's Fauna Peruana, Aves, 1844–46, 188 (based on *Merula wilsonii* Swainson, Fauna Bor.-Am., ii, 1831, 182, excl. synonymy); Journ. für Orn., 1857, 241 (Cuba).—HOMEYER, Rhea, ii, 1849, 149 (monogr.).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 216; Cat. N. Am. Birds, 1859, no. 153; Review Am. Birds, 1864, 19.—GUNDLACH, Journ. für Orn., 1871, 293 (Cuba); 1872, 405 (do.).—BLAKISTON, Ibis, 1862, 4 (Saskatchewan); 1863, 58 (Fort Carlton; Mackenzie; crit.).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 124 (Maine).—VERRILL, Proc. Bost. Soc. N. H., ix, 1862, 137 (Anticosti); Proc. Essex Inst., iii, 1862, 145 (Oxford Co., Maine).—McILWRAITH, Proc. Essex Inst., v, 1866, 84 (Hamilton, Ontario).—(?) DEGLAND and GERBE, Orn. Eur., i, 1867, 427 (accidental in Europe).—RIDGWAY,

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Proc. Ac. Nat. Sci. Phila., xxi, 1869, 128 (crit.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 275 (Fort Yukon to Bering Sea, Alaska).—COOPER, Orn. Cal., 1870, 6, part.—TRIPPE, Proc. Essex Inst., vi, 1871, 115 (Minnesota).—WYATT, Ibis, 1871, 320 (Herradura, Colombia).—MAYNARD, Birds Florida, 1872, 6.—MERRIAM, Sixth Ann. Rep. U. S. Geol. Surv. Terr., 1873, 704, 713 (Teton Basin, Idaho, breeding; descr. eggs; Utah).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 1, fig. 4.

[*Turdus*] *swainsonii* GUNDLACH, Journ. für Orn., 1861, 324 (Cuba).—COUES, Key N. Am. Birds, 1872, 72.

T[*urdus*] *swainsonii* CABANIS, in Wiegman's Archiv. für Naturg., 1847 (i), 203.—GUNDLACH, Journ. für Orn., 1861, 405 (synonymy).

Turdus swainsoni SCLATER, Proc. Zool. Soc. Lond., 1858, 451 (Gualaquiza and Cuenca, Ecuador); 1859, 326 (monogr.); 1860, 84 (Nanegal, e. Ecuador); Ibis, 1861, 282 (table-land of Mexico); Cat. Am. Birds, 1862, 2 (Bogota; Coban, Guatemala; Rio Napo and Gualaquiza, Ecuador).—(?) SCLATER and SALVIN, Ibis, 1859, 6 (Guatemala); (?) Proc. Zool. Soc. Lond., 1873, 255 (Chamicuros, e. Peru); 1879, 491 (Colombia).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (Barranca, Frailes, and Cervantes, Costa Rica).—PELZELN, Orn. Bras., ii, Abth., 1869, 92 (Cocuy and Maribatanas, Brazil, Feb., Mar.); iv, Abth., 1870, 421.—FRANTZIUS, Journ. für Orn., 1869, 289 (Costa Rica).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 251 (e. Florida, Feb.; excl. syn. part; measurements).—COUES, Check List, 1873, no. 5.—RIDGWAY, Bull. Essex Inst., v, 1873, 172 (Wahsatch Mts., Utah, breeding); vii, 1875, 22 (East Humboldt Mts., Nevada, Sept.); 32 (Wahsatch Mts.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 14.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1873, 1874, 56 (Denver, Colorado, May, 12 to 17); Zool. Exp. W. 100th Merid., 1875, 147 (do.).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 503 (Monterico, centr. Peru); 1879, 221 (Tambillo, Peru); 1882, 4 (Tamiapampa and Huambo, Peru); Orn. Pérou, i, 1884, 487.—(?) LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 11 (Tapana, Oaxaca, Apr. 14).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 18 (descr. young).—RAGSDALE, Bull. Nutt. Orn. Club, iv, 1879, 116 (Gainesville, Texas, May 10).—MINOT, Bull. Nutt. Orn. Club, v, 1880, 224 (Pikes Peak, etc., Colorado, 8,000 to 10,500 ft.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 201 (Fort Simpson, Arct. Am.; Bogota, Colombia; Bolivia).—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 538 (Chimbo, w. Ecuador, Dec.); 1885, 70 (Mapoto and Mackay, Ecuador).—CORY, Auk, iii, 1886, 2 (Cuba); Birds West Ind., 1889, 16 (do.).—GUNDLACH, Orn. Cubana, 1893, 47.—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1896, 327 (La Gloria and La Merced, centr. Peru, Jan.).—SALVADORI and FESTA, Boll. Mus. Torino, xv, no. 357, 1899, 3 (Gualaquiza and Valle de Zamora, e. Ecuador).—BAER, Ornis, xii, 1904, 213 (Lules, Argentina).

[*Turdus*] *swainsoni* GRAY, Hand-list, i, 1869, 254, no. 3682.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

T[*urdus*] *swainsoni* NELSON, Bull. Essex Inst., viii, 1876, 93, 152 (n. e. Illinois, "breeding)."

[*Turdus swainsoni*] var. *swainsoni* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 7.

[*Turdus swainsoni*] a. *swainsoni* COUES, Birds Northwest, 1874, 4 (synonymy).

[*Turdus* (*Hylocichla*) *swainsoni*] a. *swainsoni* COUES, Birds Col. Val., 1878, 34.

Turdus ustulatus, *β. swainsoni* RIDGWAY, Field and Forest, ii, May, 1877, 195 (Colorado).

[*Turdus ustulatus*] *β. swainsoni* RIDGWAY, Orn. 40th Parallel, 1877, 397 (East Humboldt Mts., Nevada, Sept.; Wahsatch Mts., Utah, breeding).

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Turdus ustulatus swainsoni COUES, Check List, 2d ed., 1882, no. 13.—BICKNELL, Auk, i, 1884, 129 (song period).—SETON, Auk, iii, 1886, 328 (Turtle Mt., Duck Mt., Big Plain, Portage la Prairie, Swan R., and northward to Carleton House, w. Manitoba, summer res.).—WILLIAMS, Auk, vii, 1890, 292 (Montana; habitat; song).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 633 (Manitoba, summer res.).—NEHRLING, Our Native Birds, i, 1893, 19, pl. 1, fig. 6.—CORY, Cat. West Ind. Birds, 1893, 122 (Cuba).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 37 (Las Vigas, Vera Cruz, 8,000 ft.).—(?) BIGELOW, Auk, xix, 1902, 30 (Labrador).

T[urdus] u[stulatus] swainsoni COUES, Key N. Am. Birds, 2d ed., 1884, 248.

Turdus ustulatus swainsonii AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 758*a*.—CHADBOURNE, Auk, iv, 1887, 107 (White Mts., New Hampshire, breeding from base to limit of shrubs).—COOKE, Bird Migr. Miss. Val., 1888, 285 (dates of migration).—RIDGWAY, Orn. Illinois, i, 1889, 60.—FAXON, Auk, vi, 1889, 107 (Berkshire Co., Massachusetts, breeding from 2,000 to 3,500 ft.).—BISHOP, Auk, vi, 1889, 149 (Magdalen Islands, breeding).—CHERRIE, Auk, vii, 1890, 337 (San José, Costa Rica, 1 spec., Nov. 7).—DWIGHT, Auk, ix, 1892, 140 (North Mt., Pennsylvania, breeding); x, 1893, 14 (Prince Edward I., breeding; habits; song).—WHITE, Auk, x, 1893, 229 (Macinac I., Michigan, breeding; song).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 482 (Rio Escondido, Nicaragua, Oct. 3, 14).—MERRILL (J. C.), Auk, xv, 1898, 21 (Fort Sherman, Idaho, breeding).—RIVES, Auk, xv, 1898, 137 (West Virginia, breeding in spruce belt).—SILLOWAY, Bull. Univ. Mont., no. 3, Biol. Ser. no. 1, 1901, 73 (Flathead Lake, etc., Montana).

T[urdus] ustulatus swainsonii RIDGWAY, Man. N. Am. Birds, 1887, 575.

Hylocichla ustulata swainsoni RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166; Nom. N. Am. Birds, 1881, no. 4*a*.—BANGS, Proc. Biol. Soc. Wash., xiii, 1899, 107 (Chirua, Santa Marta, Colombia, Feb. 7).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 127.—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 182 (Bonda, Santa Marta, Colombia, Nov., Jan.); Auk, xvii, 1900, 367 (do.).—PREBLE, North Am. Fauna, no. 22, 1902, 130 (Lake Winnipeg, Norway House, Oxford House, etc., breeding).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 63 (Huachuca Mts., Arizona, spring; crit.).—OSGOOD, North Am. Fauna, no. 24, 1904, 81 (Lake Clark and Iliamna district, Alaska).

H[ylocichla] ustulata swainsoni RIDGWAY, Bull. Ill. State Labr. N. H., no. 4, 1881, 171 (Illinois).

H[ylocichla] u[stulata] swainsoni BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 470.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 255.

[*Hylocichla*] *swainsoni* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3 (Colombia; Nanegal and Pallatanga, Ecuador).—SHARPE, Hand-list, iv, 1903, 142.

Hylocichla ustulata swainsonii NELSON, North Am. Fauna, no. 14, 1899, 60 (Tres Marias, May).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 49 (Boquete, Chiriqui, Mar., Apr.).—KNIGHT, Bull. Univ. Wyom. Agric. Ex. Sta., no. 55, 1902, 157 (Wyoming, summer res.).—WOOD, Auk, xxii, 1905, 178 (Porcupine Mts., n. Michigan, breeding).

Turdus minimus LAFRESNAYE, Rev. Zool., xi, 1848, 5 (Bogota, Colombia).—SCLATER, Proc. Zool. Soc. Lond., 1854, 111 (Quixos, Ecuador); 1855, 145 (Bogota); 1858, 64 (e. Ecuador).—BRYANT, Proc. Bost. Soc. N. H., vii, 1860, 226 (Bogota; crit.).—LAWRENCE, Ann. Lyc. N. Y., viii, 1863, 7 (Lion Hill, Panama R. R.).

Turdus nanus (not of Audubon) SAMUELS, Am. Nat., ii, 1868, 218 (Massachusetts; see Allen, Am. Nat., ii, 1868, 488; Maynard, Am. Nat., iii, 1869, 662).

H[ylocichla] ustulata (not *Turdus ustulatus* Nuttall) JORDAN, Man. Vertebr. E. U. S., 4th ed., 1884, 47.

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Hylocichla ustulata almæ OBERHOLSER, Auk, xv, Oct., 1898, 304 (East Humboldt Mts., opposite Franklin Lake, Nevada; coll. U. S. Nat. Mus.).—BISHOP, N. Am. Fauna, no. 19, 1900, 94 (Yukon basin, Alaska; song).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xviii, 1901, 309 (check list no. 758c).—OSGOOD, North Am. Fauna, no. 21, 1901, 81 (Hope, Kenai Peninsula, Alaska).

H[ylocichla] u[stulata] almæ BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 471.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 255.

Hylocichla ustulatus almæ BISHOP, Auk, xvii, Apr., 1900, 119 (Yukon Valley; Lake Marsh, Northwest Territory; crit.).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 246 (Sheep Creek, Kenai Peninsula, breeding).

[*Hylocichla*] *almæ* SHARPE, Hand-list, iv, 1903, 142.

HYLOCICHLA ALICIÆ ALICIÆ (Baird).

GRAY-CHEEKED THRUSH.

Adults in spring and summer.—Above plain olive or grayish olive,[a] the tail slightly browner (sometimes nearly broccoli brown); sides of head mostly grayish olive, paling slightly around eyes, but not showing a distinct orbital ring, the auricular region narrowly streaked with whitish, the upper portion of lores dull whitish; malar region buffy whitish, tinged with grayish olive and streaked with a darker shade of the same; under parts white, passing on sides and flanks into pale grayish olive or olive-gray, the chest varying from buffy white to pale cream-buff; a broad submalar streak of dusky along each side of throat; chest (sometimes lower throat also) marked with triangular spots of sooty black or grayish dusky, those on lower part of chest more transverse; breast, especially laterally, with transverse spots of light grayish olive or olive-gray; bill dusky, the basal half (more or less) of mandible pale brownish or yellowish (flesh colored or lilac in life); iris dark brown; legs pale brownish (in dried skins), toes darker.

Adults in autumn and winter.—Similar to the spring and summer plumage, but more brightly colored, the upper parts varying from olive to olive-sepia, and creamy buff of chest and lower throat more pronounced.

Young.—Above olive, each feather with a subterminal spot or mesial streak[b] of pale grayish buffy (more fulvous in hue on rump and upper tail-coverts), the feathers (especially on back) sometimes with narrow dusky terminal margins; lesser and middle wing-coverts olive with a central streak (narrowly linear to guttate) of pale yellowish buff, the greater coverts sometimes indistinctly tipped with buffy; remiges and rectrices as in adults; sides of head streaked dusky, olive, and pale buffy, but without buffy orbital ring; under parts white, faintly tinged on chest with buff, transversely spotted (except

[a] Olive-gray or hair brown in some June and July specimens from Alaska.

[b] These markings vary in shape from a mere shaft-streak to a large subcordate or roundish spot, most distinct on interscapular region, sometimes obsolete on rump and upper tail-coverts.

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on upper throat, abdomen, and under tail-coverts) with dull black, the blackish spots or bars broadest, and somewhat crescentic, on chest; a broad blackish submalar streak along each side of upper throat.

Adult male.—Length (skins), 152–185 (172); wing, 99–109 (104); tail, 65–78.5 (73); exposed culmen, 13–15 (14.2); tarsus, 28–32.5 (30.3); middle toe, 15.5–18.5 (17.4).[a]

Adult female.—Length (skins), 157–176 (166); wing, 97–107.5 (100); tail, 63–77 (67.7); exposed culmen, 12.5–14.5 (13.6); tarsus, 27–31.5 (29.8); middle toe, 15–17.5 (16.3).[b]

Eastern and northern North America; breeding from Newfoundland (Canada Bay), Magdalen Islands?, Labrador, Ungava (Fort Chimo), and Keewatin (York Factory; Fort Churchill; Repulse Bay) to Mackenzie (Anderson River; Wilmot-Horton River; Repulse Bay), Alaska (except portion south and east of Cross Sound), and northeastern Siberia (Cape Tschukotsk; Pitlekaj); migrating southward through eastern United States (west to eastern Montana) to Cuba, Santo Domingo, Cozumel Island, Ruatan Island, Costa Rica (San José, etc.), Panama (Volcan de Chiriqui), Colombia (Bonda, etc., Santa Marta), Ecuador (Machay), Peru (Chamicuros), Venezuela, (Quiribana de Caicara; Maipures; Nicare; La Pricion), and British Guiana (Bartica Grove; Camacusa); accidental in Greenland and Heligoland.

(?) *Turdus fuscus* (preoccupied ?)[c] GMELIN, Syst. Nat., i, pt. ii, 1788, 817 (New York; based on *Brown Thrush* Pennant, Arct. Zool., ii, 337; Latham, Synop. Birds, ii, pt. i, 28).

[a] Twenty-seven specimens.

[b] Twenty-one specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic coast district	104.1	74.9	14.3	30.8	17.4
Six adult males from Mississippi Valley	103.4	72.5	13.7	29.9	16.9
Eleven adult males from Alaska	104.2	71.5	14.2	30	16.6
Ten adult males of *H. a. bicknelli*	92.1	66.5	13.3	28.5	16.1
FEMALES.					
Eight adult females from Atlantic coast district	100.1	70.1	13.6	29.6	16.6
Eight adult females from Mississippi Valley	99.9	67.7	13.5	29.1	16.1
Five adult females from Alaska	100.9	69.7	13.7	29.5	16.2
Eight adult females of *H. a. bicknelli*	88.6	64.2	13.3	29	16.4

[c] Mr. Seebohm (Cat. Birds Brit. Mus., v, 201, footnote) says: "Coues, in his 'Birds of the Colorado Valley' (p. 34), states that the name given by Gmelin had been previously applied to another species; but I have been unable to discover any such application."

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(?) *Merula solitaria* (not *Turdus solitarius* Wilson?) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, pl. "35"=37 (not the text, pp. 184–186, which= *Hylocichla guttata pallasii*).

Turdus aliciae BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 217 (West Northfield, Illinois; coll. U. S. Nat. Mus.); ed. 1860 (Birds N. Am.), pl. 81, fig. 2; Cat. N. Am. Birds, 1859, no. 154; Review Am. Birds, 1864, 21.—SCLATER, Proc. Zool. Soc. Lond., 1859, 326 (crit.); Ibis, 1861, 282.—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 217 (Labrador).—COUES and PRENTISS, Ann. Rep. Smithson. Inst. for 1861 (1862), 405 (District Columbia, migr.).—HAYDEN, Trans. Am. Philos. Soc., xii, 1862, 159 (lower Missouri R., etc.).—GUNDLACH, Repert. Fisico Nat. Cuba, i, 1865, 229; Journ. für Orn., 1871, 293 (Cuba); 1872, 405 (do.); Orn. Cubana, 1893, 48.—ALLEN, Am. Nat., ii, 1868, 489 (crit.).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (San José, Costa Rica).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 275 (Yukon R., Alaska).—RIDGWAY, Proc. Ac. Nat. Sci. Phila., xxi, 1869, 128 (crit.); Orn. Illinois, i, 1889, 87.—FRANTZIUS, Journ. für Orn., 1869, 289 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 180 (Volcan de Chiriqui, Panama; crit.).—TACZANOWSKI, Journ. für Orn., 1872, 440; 1873, 112; Bull. Soc. Zool. France, 1876, 148; Orn. du Pérou, i, 1884, 486; Krit. Obz. Orn. Fauna Vost. Sibiri, 1877, 32 (Cape Tschukotsk, n. e. Siberia, breeding; see Stejneger, Auk, i, 1884, 166).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 11, pl. 1, fig. 3.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 12.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 202 (Chamicuros, e. Peru, Mar. 20; Repulse Bay, Arctic Am.).—BICKNELL, Auk, i, 1884, 130 (song period; descr. song).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 70 (Machay, Ecuador, Nov:; crit.).—SALVIN, Ibis, 1885, 197 (Bartica Grove and Camacusa, British Guiana); 1888, 243 (Cozumel I., Ruatan I.).—CORY, Birds Haiti and San Dom., 1885, 17 (Puerto Plata, Dec., Jan.); Auk, iii, 1886, 2; Birds West Ind., 1889, 16; Cat. W. I. Birds, 1892, 122 (Cuba; Santo Domingo).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 757.—TOWNSEND (C. H.), Auk, iv, 1887, 13 (Kowak R., Alaska, common).—COOKE, Bird Migr. Miss. Val., 1888, 285 (dates, etc.).—BISHOP, Auk, vi, 1889, 149 (Magdalen Islands, July 15, breeding?).—PALMER (W.), Proc. U. S. Nat. Mus., xiii, 1890, 265 (Canada Bay, Newfoundland, breeding).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 445 (Anderson H., Wilmot-Horton R., etc., Mackenzie, breeding).—NEHRLING, Our Native Birds, i, 1893, 14.—THORNE, Auk, xii, 1895, 218 (Fort Keogh, Montana, 1 spec., May, 1889).—CHERRIE, Contr. Orn. San Dom., 1896, 9 (Feb.).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 144 (Santa Marta, Colombia).—BIGELOW, Auk, xix, 1902, 30 (Battle Harbor, Labrador).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 3 (Quiribana de Caicara, and Maipures, Orinoco R.; Nicare and La Pricion, Cuara R., Venezuela, Jan., Feb., Apr., and Dec.).

[*Turdus*] *aliciæ* GRAY, Hand-list, i, 1869, 254, no. 3686.—CORY, List Birds West Ind., 1885, 5.

T[*urdus*] *aliciæ* GUNDLACH, Journ. für Orn., 1861, 405 (Cuba; crit.).—DALL, Am. Nat., iv, 1870, 600, in text (Yukon R., Alaska).—NELSON, Bull. Essex Inst., viii, 1876, 93 (n. e. Illinois, migrant; descr. song).—RIDGWAY, Man. N. Am. Birds, 1887, 574.

[*Turdus swainsonii.*] Var. *aliciæ* COUES, Key N. Am. Birds, 1872, 73.

Turdus swainsoni . . . var. *aliciæ* COUES, Check List, 1873, no. 5*a*.

Turdus swainsonii . . . var. *aliciæ* PALMÉN, Vega-Exp., 1887, 262 (Tschuktschhalfön and Pitlekaj, Siberia, June).

[*Turdus swainsoni*] b. *aliciæ* COUES, Birds N. W. 1874, 4 (synonymy).

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[*Turdus* (*Hylocichla*) *swainsoni*] b. *aliciæ* COUES, Birds Col. Val., 1878, 35, 36 (synonymy; diagnosis).

Turdus swainsoni aliciæ ROBERTS, Bull. Nutt. Orn. Club, iv, July, 1879, 152 (Minneapolis, Minnesota, May 11).

Turdus ustulatus aliciæ COUES, Check List, 2d ed., 1882, no. 12.—LOOMIS, Auk, ii, 1885, 190 (Chester Co., South Carolina).

T[urdus] u[stulatus] aliciæ COUES, Key N. Am. Birds, 2d ed., 1884, 247.

H[ylocichla] aliciæ RIDGWAY, Proc. Ac. Nat. Sci. Phila., June, 1869, 127, in text.—JORDAN, Man. Vertebr. E. U. S., 4th ed., 1884, 47.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 255.

Hylocichla aliciæ RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166; Nom. N. Am. Birds, 1881, no. 3.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 145 (St. Paul, Kadiak I., July 13).—MCLENEGAN, Cruise "Corwin," 1884, 113 (Kowak R., Alaska, breeding; descr. habits, song, and nest).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 235 (Fort Chimo, Ungava, breeding).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 127.—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 183 (Bonda, etc., Santa Marta, Colombia, Oct. 7 to Apr. 7); Auk, xvii, 1900, 367 (do.).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 246 (Sheep Creek, Kenai Peninsula, breeding; crit.).—MCGREGOR, Condor, iv, 1902, 144 (Cairn, Dexter, Cape Denbigh, and Besboro I., Alaska). PREBLE, North Am. Fauna, no. 22, 1902, 129 (York Factory and Fort Churchill, breeding; descr. young).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 469.—OSGOOD, North Am. Fauna, no. 24, 1904, 81 (Swan Lake, Kakhteul R., Aleknagik Lake, and Nushagak, Alaska).

[*Hylocichla*] *aliciæ* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3.—SHARPE, Hand-list, iv, 1903, 142.

Hylocichla aliciae aliciae SCHALOW, Vögel der Arktis, 1904, 267.

T[urdus] swainsonii (not of Cabanis, 1847) CABANIS, Mus. Hein., i, 1850, 5 (Siberia).

Turdus swainsoni (not of Cabanis) CORDEAUX, Ibis, 1875, 177 (Heligoland, 1 spec., Oct. 2, 1869).—SEEBOHM, Ibis, 1877, 164 (Heligoland); 1892, 7 (Heligoland).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 68 (Heligoland).

(?) *Turdus minor* (not of Gmelin?) REINHARDT, Journ. für Orn., 1854, 427 (Greenland); Ibis, 1861, 6 (Greenland).

HYLOCICHLA ALICIÆ BICKNELLI Ridgway.

BICKNELL'S THRUSH.

Similar to *H. a. aliciæ*, but decidedly smaller, coloration of upper parts averaging browner[a] (olive-sepia to sepia brown) and bill averaging more slender.

Young much browner above than that of *H. a. aliciæ*, and with chest more decidedly buffy.

Adult male.—Length (skins), 151–167 (159); wing, 88.5–98 (92.1); tail, 62–70.5 (66.5); exposed culmen, 13–13.5 (13.3); tarsus, 26–30 (28.5); middle toe, 15.5–17 (16.1).[b]

[a] With a much larger series of both this form and true *H. aliciæ* (twenty adults of the former and more than fifty of the latter) than that examined by Mr. Brewster (see Bull. Nutt. Orn. Club, viii, 1883, 16, 17), I find the *average* difference in coloration to be very decided.

[b] Ten specimens.

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Adult female.—Length (skins), 154–164 (158); wing, 85–93 (88.6); tail, 60.5–68 (64.2); exposed culmen, 12.5–14 (13.3); tarsus, 27.5–30 (29); middle toe, 15.5–17.5 (16.4).[a]

Breeding on mountains of northeastern New York (Catskills; Adirondacks?), western Massachusetts (Mount Graylock), Vermont (Mount Mansfield; Mount Killington; Jay Peak; Pico Peak), New Hampshire (Mount Washington; Mount Lafayette; Mount Cannon; Tuckermans Ravine, 3,000–4,340 feet), Maine (Mount Ktaadn), and Nova Scotia; during migration southward through eastern United States to South Carolina (Charleston; Chester), Illinois (Warsaw), and Bahamas (Cay Sal).

Hylocichla aliciæ bicknelli RIDGWAY, Proc. U. S. Nat. Mus., iv, Apr. 6, 1882, 377 (Slide Mt., Ulster Co., New York; coll. E. P. Bicknell); Bull. Nutt. Orn. Club, vii, 1882, 257.—BICKNELL, Bull. Nutt. Orn. Club, vii, 1882, 152–159 (biography).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 432 (reprint of orig. descr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 127.—HOWELL, Auk, xviii, 1901, 345 (Mount Mansfield, Vermont, breeding; habits, song, etc.).—HOWE, Contr. N. Am. Orn., ii, 1902, 21 (breeding on Mount Mansfield, Jay Peak, Mount Killington, and Pico Peak, Vermont).—ALLEN (G. M.), Proc. Manchester Inst., iv, 1902, 181 (New Hampshire Mts., breeding above 3,000 ft.).

H[ylocichla] a[liciæ] bicknelli COUES, Key N. Am. Birds, 5th ed., i, 1903, 256.

[*Hylocichla*] *bicknelli* SHARPE, Hand-list, iv, 1903, 142.

Turdus aliciæ bicknelli BREWSTER, Bull. Nutt. Orn. Club, viii, Jan., 1883, 12–17 (Mount Washington, New Hampshire, breeding; biography).—MERRIAM, Auk, i, 1884, 58 (Lewis Co., New York, May 24).—DUTCHER, Auk, iii, 1886, 443 (Shinnecock Bay, Long Island, 2 specs., Oct. 1).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 757*a*.—CHADBOURNE, Auk, iv, 1887, 107 (Tuckermans Ravine, White Mts., New Hampshire, breeding at 3,000 to 4,340 ft.).—LOOMIS, Auk, iv, 1887, 261 (Chester, South Carolina, May 6); viii, 1891, 173 (do., Sept. 17).—FAXON and ALLEN, Auk, v, 1888, 153 (Mount Lafayette and Mount Cannon, New Hampshire, summer).—RIDGWAY, Orn. Illinois, i, 1889, 59 (Warsaw, Illinois, 1 spec., May 24, 1884).—FAXON, Auk, vi, 1889, 106 (Graylock Mt., Massachusetts, breeding?; habits, song, etc.); xii, 1895, 392 (Mount Graylock, breeding!).—TORREY, Auk, vi, 1889, 194 (Mount Mansfield, Vermont, breeding).—CORY, Auk, viii, 1891, 352 (Cay Sal, Bahamas, 1 spec., May, 1891); Cat. West Ind. Birds, 1892, 122 (do.).—NEHRLING, Our Native Birds, i, 1893, 15.—HOWELL, Auk, x, 1893, 91 (Rockaway Beach, Long Island, 2 specs., Oct. 5, 1892; Shinnecock Light, Sept. 18, 1889, and Oct. 23, 1886; Astoria, Sept. 23, 1887; Statue of Liberty, New York Harbor, Sept. 18 and 19, 1889, and Oct. 11, 12, 1891).—STONE, Birds E. Penn. and New Jersey, 1894, 150 (Philadelphia; West Chester).—ALLEN (F. H.), Auk, xv, 1898, 60 (Mt. Ktaadn, Maine, breeding).

T[urdus] a[liciæ] bicknelli COUES, Key N. Am. Birds, 2d ed., 1884, 248.

T[urdus] aliciæ bicknelli RIDGWAY, Man. N. Am. Birds, 1887, 575.

Turdus aliciæ bicknellii HOWELL, Auk, xvi, 1899, 85 (Parkville, Long Island, Oct. 12, 1892, Sept. 30, 1893, Oct. 3, 1894).

[a] Seven specimens.

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HYLOCICHLA FUSCESCENS FUSCESCENS (Stephens).

WILSON'S THRUSH.

Adults in spring and summer.—Above plain tawny-brown (varying from almost cinnamon-brown to a more isabelline hue), the wings and tail slightly duller brown, especially the former; loral region dull grayish white, the former sometimes slightly suffused with grayish in front of eye; eyelids similar, the color not forming a distinct orbital ring; auricular region rather light dull tawny-brown, narrowly streaked with dull brownish white; malar region dull buffy white, becoming decidedly buffy posteriorly, where more or less distinctly streaked with tawny-brown; chin and throat buffy white, gradually passing into pale buff or pinkish buff on chest, the latter tinged with brown laterally, the upper chest and sides of lower throat streaked with tawny-brown, the lower chest spotted with a paler and slightly grayer tint of the same;[a] sides and flanks light buffy grayish or pale hair brown, the sides of breast sometimes faintly spotted with a darker shade of the same; rest of under parts white; axillars pale brownish gray, tipped with white; under wing-coverts mixed pale brownish gray and white, usually slightly tinged with pale brownish buff; bill dark horn color (the maxilla sometimes blackish horn color), the basal half (more or less) of mandible pale yellowish (pale grayish flesh color or lilaceous in life?); iris dark brown; legs and feet pale brownish or pale yellowish brown (dull flesh color in life?).

Adults in autumn and winter.—Similar to the spring and summer plumage and not constantly different, but averaging slightly brighter (more cinnamomeous or tawny) above, and chest and sides of lower throat slightly deeper buff.

Young.—Above dull cinnamon or tawny-brown, each feather of pileum, hindneck, back, scapulars, and lesser and middle wing-coverts with a mesial streak or spot[b] of yellowish buff or light clay color, the rump and upper tail-coverts with larger but less distinct spots of a deeper or more tawny hue; greater wing-coverts usually with a more or less distinct terminal spot or margin of brownish buff or clay color; under parts white, the chest, sides of lower throat, and sides of breast more or less strongly suffused or tinged with brownish buff or pale tawny, and barred or transversely spotted with dark sooty brown or dusky, most heavily on chest; a more or less distinct submalar streak of dusky along each side of throat.

[a] The streaks are more linear on sides of lower throat, more cuneate on upper chest, the spots on lower chest more or less triangular and transverse (broader than long); in color the streaks are nearly like the color of the back, but sometimes decidedly darker.

[b] The markings are smaller and usually narrower on pileum, larger and more spot-like on back.

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Adult male.—Length (skins), 172–184 (177); wing, 98.5–105 (102.3); tail, 69.5–78.5 (74.4); exposed culmen, 13.5–15.5 (14.3); tarsus, 28.5–32 (30.4); middle toe, 16.5–17.5 (17.2).[a]

Adult female.—Length (skins), 159–172 (164); wing, 94.5–101 (96.4); tail, 65.5–72.5 (68.4); exposed culmen, 13–14 (13.7); tarsus, 27.5–29.5 (28.7); middle toe, 15.5–17.5 (16.3).[a]

Eastern North America; breeding from northern New Jersey, Pennsylvania (Northampton, Lackawanna, Crawford, Erie, Elk, Blair, and Cambria counties), northern Ohio, northern Indiana (Dekalb County ?),[b] northern Illinois (Cook County; Ogle County), central Iowa (Jasper County), and southeastern South Dakota (Clay County), northward to Newfoundland (Codroy), Magdalen Islands, and Ontario (Toronto; Ottawa), and southward along the Allegheny Mountains to western North Carolina (3,500–5,000 feet); wintering in South Carolina (?), Florida (?), Cuba, and coast of Yucatan (Cozumel, Ruatan, and Bonaca islands), and from Costa Rica (San José, October) and Panama (Loma del Leon; Aspinwall) to Colombia (Bonda, Santa Marta), British Guiana (Camacusa) and Brazil (San Vicente, December; Chapada, Matto Grosso, November, February; Santarem).

[*Turdus*] *minor* (not of Pallas, 1764) GMELIN, Syst. Nat., i, pt. 2, 1788, 809, part (based on *Little Thrush* Latham, Synopsis Birds, ii, pt. 1, 20, =this species, and *Little Thrush* Pennant, Arctic Zool., ii, 338, =*H. ustulata swainsonii*).—LATHAM, Index Zool., i, 1790, 328, part.

Turdus minor VIEILLOT, Ois. Am. Sept., ii, 1807, 7, part; Nouv. Dict. d'Hist. Nat., xx, 1818, 232.—LESSON, Traité d'Orn., 1831, 408.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 47, pl. 5.—DEGLAND and GERBE, Orn. Eur., i, 1867, 424 (Europe, accidental).

[a] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Massachusetts to Virginia	102.3	74.4	14.3	30.4	17.2
Two adult males from Newfoundland	101.5	75	14.2	31	18
FEMALES.					
Ten adult females from Massachusetts to Virginia	96.4	68.4	13.7	28.7	16.3
Three adult females from Newfoundland	98	71	14.2	29.8	18

[b] Butler's "Birds of Indiana" (1897, p. 1149) cites me as authority for the alleged breeding of this species in Knox and Gibson counties. This is of course an error, for I never even imagined the possibility of an "Alleghenian" species breeding along the joint boundary line of the Carolinian and Austroriparian Provinces. Mr. Butler must have misunderstood me or misinterpreted some written or published statement of mine.

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Merula minor SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 179, pl. 36.—(?) DENNY, Proc. Zool. Soc. Lond., 1847, 38 (Jamaica, Cuba, and United States).

Turdus mustelinus (not of Gmelin) WILSON, Am. Orn., v, 1812, 98, pl. 43, fig. 3.

Turdus fuscescens STEPHENS, Shaw's Gen. Zool., x, pt. 1, 1817, 182 (based on *Turdus mustelinus* Wilson, not of Gmelin).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 214; Cat. N. Am. Birds, 1859, no. 151; Review Am. Birds, 1864, 17.—SCLATER, Proc. Zool. Soc. Lond., 1859, 326 (monogr.); Ibis, 1861, 282; Cat. Am. Birds, 1862, 2 (synonymy).—GUNDLACH, Journ. für Orn., 1861, 324 (Cuba); 1872, 405 (do.); Repert. Fisico-Nat. Cuba, i, 1865, 288; Orn. Cubana, 1893, 47.—LAWRENCE, Ann. Lyc. N. Y., vii, 1861, 326 (Lion Hill, Panama R. R.).—VERRILL, Proc. Essex Inst., iii, 1862, 146 (Maine, breeding).—MCILWRAITH, Proc. Essex Inst., v, 1866, 84 (Hamilton, Ontario).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 106 (South Carolina, winter); Check List, 1873, no. 6, part; 2d ed., 1882, no. 7; Birds Northwest, 1874, 5, part.—PELZELN, Orn. Bras., ii, Abth., 1869, 92 (San Vicente, Brazil, 4 specs., Dec.).—RIDGWAY, Proc. Ac. Nat. Sci. Phila., xxi, 1869, 127 (crit.); Orn. Illinois, i, 1889, 53.—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 256, excl. syn. part (e. Florida, winter); Bull. Am. Mus. N. H., iii, 1891, 340 (Chapada, Matto Grosso, Brazil, 2 specs., Nov., Feb.).—MAYNARD, Proc. Bost. Soc. N. H., xiv, 1871 (Maine and New Hampshire, breeding); Birds Florida, 1872, 10.—GUNDLACH, Journ. für Orn., 1871, 293 (Cuba); 1872, 405 (do.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 9, part, pl. 1, fig. 5.—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 18 (descr. young); Auk, iii, 1886, 178 (mountains w. North Carolina, breeding 3,500 to 5,000 ft.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 10, part (Lion Hill and Aspinwall, Panama R. R.; San Vicente, Brazil; Santarem, lower Amazon).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 203.—BICKNELL, Auk, i, 1884, 129 (song period).—(?) SALVIN, Ibis, 1885, 196 (Camacusa, British Guiana); 1888, 243 (Cozumel I.; Ruatan I.; Bonaca I.).—CORY, Auk, iii, 1886, 2 (Cuba); Birds West Ind., 1889, 16; Cat. West Ind. Birds, 1892, 122.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 756.—COOKE, Bird Migr. Miss. Val., 1888, 284, part (breeding at Polo, Illinois, Grinnell, Iowa, and Vermilion, South Dakota;[a] dates of migr.).—FAXON, Auk, vi, 1889, 46 (Berkshire Co., Massachusetts, breeding); 106 (do.).—BISHOP, Auk, vi, 1889, 149 (Magdalen Islands, breeding).—SCOTT, Auk, vii, 1890, 119 (Key West, Florida, Apr. 28 to May 3).—(?) CHERRIE, Auk, vii, 1890, 337 (San José, Costa Rica, 1 spec., Oct. 14, 1889).—DWIGHT, Auk, ix, 1892, 140 (Cresson and valley of Altoona, Pennsylvania, breeding, also Northampton, Lackawanna, Crawford, and Erie counties, fide Warren).—WHITE, Auk, x, 1893, 229 (Macinac I., Michigan breeding).—NEHRLING, Our Native Birds, i, 1893, 10, pl. 1, fig. 4.—GRUNDTVIG, Trans. Wisc. Ac. Sci., etc., x, 1894, 155 (Outagamie Co., Wisconsin, breeding).—BAILY, Auk, xiii, 1896, 297 (n. Elk Co., Pennsylvania, breeding).—PORTER, Auk, xvii, 1900, 73 (Newfoundland, Sept.).—BONHOTE, Auk, xx, 1903, 170 (Cay Lobos, Bahamas, Apr. 15).

[*Turdus*] *fuscescens* GUNDLACH, Journ. für Orn., 1861, 324 (Cuba).—GRAY, Handlist, i, 1869, 254, no. 3681.—PELZELN, Orn. Bras., iv, Abth., 1870, 421.—COUES, Key N. Am. Birds, 1872, 73, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, i, part ?.

T[*urdus*] *fuscescens* GUNDLACH, Journ. für Orn., 1861, 405 (synonyms).—NELSON, Bull. Essex Inst., viii, 1876, 93, 152 (n. e. Illinois, breeding).—COUES, Key N. Am. Birds, 2d ed., 1884, 246.—RIDGWAY, Man. N. Am. Birds, 1887, 574.

Turdus fuscesens BARNARD, Ann. Rep. Smithson. Inst. for 1860 (1861), 435 (Nova Scotia).

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Turdus (*Hylocichla*) *fuscescens* COUES, Birds Col. Val., 1878, 39, part.

Hylocichla fuscescens RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166; Nom. N. Am. Birds, 1881, no. 2.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 127.—HOWE, Auk, xvii, 1900, 18 (range).—ALLEN, Auk, xvii, 1900, 367 (Bonda, Santa Marta, Colombia, Oct. 5, 7, 13); Bull. Am. Mus. N. H., xiii, 1900, 182 (do.).—EMBODY, Bull. Dept. Geol. and W. H. Colgate Univ., 1901, 33 (Madison Co., New York, breeding).—TODD, Ann. Carnegie Mus., ii, 1904, 592 (Erie Co., Pennsylvania, breeding).—WOOD and FROTHINGHAM, Auk, xxii, 1905, 53 (Oscoda Co., n. Michigan, July).—DANIEL, Auk, xxii, 1905, 214 (Mount Rogers, Grayson Co., Virginia, breeding).

H[*ylocichla*] *fuscescens* RIDGWAY, Bull. Ill. State Labr. N. H., no. 4, 1881, 171 (Illinois).—JORDAN, Man. Vertebr. E. U. S., 4th ed., 1884, 47.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 253.

[*Hylocichla*] *fuscescens* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3.—SHARPE, Hand-list, iv, 1903, 141.

Turdus silens VIEILLOT, Enc. Méth., ii, 1823, 647.

Turdus wilsonii BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 34 (based on *Turdus mustelinus* Wilson, not of Gmelin); Ann. Lyc. N. Y., ii, 1826, 76.—AUDUBON, Orn. Biog., ii, 1834, 362, pl. 164; Synopsis, 1839, 90; Birds Am., oct. ed., iii, 1841, 27, pl. 145.—CABANIS, in Tschudi's Fauna Peruana, Aves, 1844–46, 188, footnote (crit.); in Wiegmann's Archiv. für Naturg., 1847 (i) 205.—HOMEYER, Rhea, ii, 1849, 148 (monogr.).—HOY, Proc. Ac. Nat. Sci. Phila., vi, 1853, 310 (Wisconsin); Ann. Rep. Smithson. Inst. for 1864 (1865) 437 (Missouri).—(?) TRIPPE, Proc. Essex Inst., vi, 1871, 115 (Minnesota, breeding).[a]

T[*urdus*] *wilsonii* LAWRENCE (in Gundlach), Journ. für Orn., 1861, 406 (Cuba; crit.).

Turdus wilsoni BONAPARTE, Geog. and Comp. List, 1838, 17; Consp. Av., i, 1850, 271.—GUNDLACH, Journ. für Orn., 1855, 470 (Cuba); 1861, 405 (do.; crit.).

Merula wilsonii SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 182, part.—BREWER, Proc. Bost. Soc. N. H., i, 1844, 191 (descr.; crit.).

(?) *Turdus brunneus* "Gmel." BREWER, Journ. Bost. Soc. N. H., vi, 1852, 304 (crit.; descr. nest and eggs).[b]—CABOT, Naumannia, Bd. ii, Heft. iii, 1852, 66 (Lake Superior).

Hylocichla fuscescens fuliginosa HOWE, Auk, xvii, July, 1900, 271 (Codroy, Newfoundland; coll. W. Brewster); xix, 1902, 92 (near Lowell, Massachusetts, 1 spec., autumn); Suppl. Birds Rhode Is., 1903, 23.—FAXON, Auk, xviii, 1901, 198 (Berkshire Co., Massachusetts, 1 spec., Sept. 27, 1900).

[*Merula*] *philomelloides* BLYTH, Analyst, iv, 1836, 222 (new name for the *Tawny Thrush* of Wilson).

HYLOCICHLA FUSCESCENS SALICICOLA Ridgway.

WILLOW THRUSH.

Similar to *H. f. fuscescens*, but coloration duller, the brown of upper parts less tawny (varying from deep isabella color to nearly broccoli brown), and brown streaks on upper chest and sides of lower throat averaging slightly darker.

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[a] These localities may possibly be represented by *H. f. salicicola*.

[b] I have cited this reference also under *H. guttata pallasii* for the reason that it is impossible to determine from Dr. Brewer's article which species is intended.

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Adult male.—Length (skins), 161–186 (174); wing, 96–103.5 (100.5); tail, 70–79 (74.1); exposed culmen, 13–15 (14.1); tarsus, 29–31 (29.6); middle toe, 16–17.5 (17.1).[a]

Adult female.—Length (skins), 154–166 (162); wing, 89–100 (97.5); tail, 69.5–74.5 (71.6); exposed culmen, 13.5–14.5 (13.8); tarsus, 28–30.5 (29.2); middle toe, 16.5–18.5 (17).[b]

Interior districts of United States and British Provinces; breeding from North Dakota (Pembina) and Manitoba (lower Saskatchewan; Red River; between Winnipeg and Selkirk, etc.) to interior of British Columbia (Ducks; Ashcroft; Okanogan), and southward to Nevada (Mountain City), Utah (valleys of Bear, Weber, and Provo rivers and Salt Lake Valley), and Colorado (Denver; Fort Garland); during migration southward through Arizona (Tucson, May) and Mexico (Orizaba, Vera Cruz, winter)? to southern Brazil (Chapada, Matto Grosso, March 27), and eastward to Minnesota (Fort Snelling, May 16 to 26), Wisconsin (Camp Douglas, August 7), Illinois (Chicago, September 16; Glen Ellyn, May 6, 21, August 29, September 1, 6, 8), Indiana (Vincennes, May 14; Wheatland, May 7; Liverpool, May 5), Mississippi (Amite County, September 18), straggling to Ontario (Hamilton, May 16) and South Carolina (Chester, October 5).

Turdus fuscescens (not of Stephens) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 922, 927 (Fort Bridger, Wyoming); Cat. N. Am. Birds, 1859, no. 151, part; Review Am. Birds, 1864, 17, part (Fort Bridger).—(?) HAYDEN, Trans. Am. Philos. Soc., 1862, 158 (Lower Missouri).—BLAKISTON, Ibis, 1863, 58 (lower Saskatchewan; Red R., Manitoba).—(?) SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (near Orizaba, Vera Cruz, winter).—STEVENSON, Prelim. Rep. U. S. Geol. Surv. Terr. for 1870 (1871), 463 (Green River, Wyoming).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 155, 173 (mountains of Colorado).—COUES, Check List, 1873, no. 6, part; Birds Northwest, 1874, 5, part.—RIDGWAY, Bull. Essex Inst., v, 1873, 172 (Salt Lake Valley, Utah), 179 (Colorado); vii, 1875, 35 (Provo R., Utah); Field and Forest, iii, 1877, 195 (Colorado); Orn. 40th Parallel, 1877, 398 (valleys of Bear, Provo, and Weber rivers, Utah, breeding).—TRIPPE, in Coues Birds Northwest, 1874, 228 (Colorado, 8,400 ft. July).—HENSHAW, Ann. Lyc. N. Y., xi, 1874, 2 (Utah); Rep. Orn. Spec. Wheeler's Surv., 1874, 39 (Provo R., Utah), 56 (Denver, Colorado), 71 (Fort Garland,

[a] Nine specimens.

[b] Six specimens.

Ten adult males from the Mississippi Valley and Manitoba compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Rock Mountain (Colorado to British Columbia)	100.5	74.1	14.1	29.6	17.1
Ten adult males from Manitoba to Indiana	99.8	72.1	13.9	30	17

I am unable to appreciate any difference in coloration between the two series.

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Colorado); Zool. Exp. W. 100th Merid., 1875, 148 (Denver and Fort Garland, Colorado, breeding).—WILLIAMS, Bull. Nutt. Orn. Club, vii, 1882, 62 (Belt Mts., Montana, breeding).—SETON, Auk, iii, 1886, 328 (w. Manitoba; abundant summer res.).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 633 (Manitoba, summer res.).

[*Turdus*] *fuscescens* COUES, Key N. Am. Birds, 1872, 73, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

Turdus (*Hylocichla*) *fuscescens* COUES, Birds Col. Val., 1878, 39, part.

Hylocichla fuscescens RIDGWAY, Nom. N. Am. Birds, 1881, no. 2, part. —(?) AGERSBORG, Auk, ii, 1885, 277 (s. e. South Dakota, summer res.).

Turdus (*Hylocichla*) *swainsoni* (not *Turdus swainsonii* Cabanis) COUES, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 3, 1878, 550 (Souris R., Dakota, Sept.).

Hylocichla fuscescens salicicola RIDGWAY, Proc. U. S. Nat. Mus., iv, Apr. 6, 1882, 374 (Fort Garland, Colorado; coll. U. S. Nat. Mus.); Bull. Nutt. Orn. Club, vii, 1882, 257.—COALE, Bull. Nutt. Orn. Club, viii, 1883, 239 (Chicago, Illinois, Sept. 16, 1877).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 432 (reprint of orig. descr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 127.—HOWE, Auk, xvii, 1900, 19 (range).—ALLISON, Auk, xvii, 1900, 297 (Amite Co., Mississippi, spec., Sept. 18, 1897).—PREBLE, North Am. Fauna, no. 22, 1902, 129 (between Winnipeg and Selkirk, Manitoba).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 469.

H[ylocichla] f[uscescens] salicicola COUES, Key N. Am. Birds, 5th ed., i, 1903, 254.

[*Hylocichla*] *salicicola* SHARPE, Hand-list, iv, 1903, 142.

T[urdus] f[uscescens] salicicola COUES, Key N. Am. Birds, 2d ed., 1884, 246.

Turdus fuscescens salicicolus AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 756*a*.—SCOTT, Auk, v, 1888, 167 (Tuscon, Arizona, 1 spec., May, 1882).—COOKE, Bird Migr. Miss. Val., 1888, 284 (Devil's Lake and Pembina, Dakota; Cook Co., Texas).—LOOMIS, Auk, vi, 1889, 194 (Chester, South Carolina, 1 spec., Oct. 5, 1888); viii, 1891, 173 (do.).—RIDGWAY, Orn. Illinois, i, 1889, 55.—WILLIAMS, Auk, vii, 1890, 292, 293 (Montana; habitat; song).—CHAPMAN, Bull. Am. Mus. N. H., iii, 1890, 154 (Ducks and Ashcroft, int. British Columbia, breeding; Sassin, Washington, breeding).—ALLEN, Bull. Am. Mus. N. H., iii, 1891, 340 (Chapada, Matto Grosso, s. w. Brazil, 1 spec., Mar. 27).—GAULT, Auk, xii, 1895, 85 (Glen Ellyn, n. e. Illinois, May 6 and 21, Aug. 29, and Sept. 1, 6, 8, 1894).—BUTLER, Birds Indiana, 1897, 1150 (Liverpool, n. w. Indiana, 2 specs., May 5, 1894).

T[urdus] fuscescens salicicolus RIDGWAY, Man. N. Am. Birds, 1887, 574.

T[urdus] f[uscescens] salicicolus COUES, Key N. Am. Birds, 2d ed., 1884, 246.

Turdus fuscescens salicicola MERRILL (J. C.), Auk, xv, 1898, 21 (Fort Sherman, Idaho, breeding).—SILLOWAY, Bull. Univ. Mont., no. 3, Biol. ser. no. 1, 1901, 73 (Flathead Lake, Montana, breeding).

Genus ZELEDONIA Ridgway.

Zeledonia RIDGWAY, Proc. U. S. Nat. Mus., xi, sig. 34, Sept. 20, 1889, 537. (Type, *Z. coronata* Ridgway.)

Very small, long-legged, short-tailed, rounded-winged Turdidæ(?) with tail consisting of only ten rectrices and not longer than tarsus and basal phalanx of middle toe (between one-half and three-fifths as long as wing, the latter very little more than twice as long as tarsus), outermost (tenth) primary very minute (shorter than primary coverts), the ninth two-thirds as long as eighth, and with an orange-rufous crown-patch.

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Bill small and short (about as long as distance from nostril to middle of eye), its depth at frontal antiæ (where depth and width about equal) more than half the distance from nostril to tip of maxilla; exposed culmen about equal in length to inner toe without claw, straight basally, then gradually decurved to tip; gonys faintly convex, ascending terminally, nearly as long as distance from nostril to tip of maxilla, much longer than mandibular rami; maxillary tomium faintly concave, distinctly notched subterminally. Nostril very narrow, longitudinally comma-shaped, broadest anteriorly, overhung by a broad, convex, membraneous operculum, its posterior end hidden by the harsh and semi-erect feathering of frontal antiæ. Rictal bristles well developed, especially those nearest nostril. Wing short, very concave beneath, much rounded at tip; outermost (tenth) primary minute (shorter than primary coverts), the ninth two-thirds as long as eighth, or longer, about one-fourth as wide as long; eighth primary shorter than first (about equal to secondaries); seventh about equal to third; the sixth, fifth, and fourth longest. Tail very short, but little more than half as long as wing, not longer than combined length of tarsus and basal phalanx of middle toe, slightly rounded, the rectrices not more than ten,[a] pointed at tip, their webs lax or semi-decomposed. Tarsus very long and slender, nearly half as long as wing, at least four-fifths as long as tail, the acrotarsium fused on both sides; middle toe (without claw) three-fifths as long as tarsus, or slightly less; lateral toes slightly unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux equal to inner toe, or very slightly longer, much stouter; basal phalanx of middle toe adherent for half its length, or very slightly more, to outer toe, for less than half to inner toe; claws normal, that of hallux shorter than its digit.

Coloration.—Pileum orange-rufous, the remaining upper parts plain olive or olive-green; under parts plain slate color or slate-gray, becoming olive or olive-green on flanks and under tail-coverts. Sexes alike.

Nidification.—(Unknown.)

Range.—Summits of high volcanoes of Costa Rica and Panama. (Monotypic.)

The relationships of this remarkable genus are somewhat doubtful, but I feel confident it is not far removed from *Catharus*, of which (except in the character of the nostril, which is very different) it seems to be an exaggeration. It is certainly an Oscine and not a Tracheophone, as at first supposed.[b]

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[a] Of the two specimens examined one (the type of *Z. coronata*) has ten rectrices, the other only eight, but possibly the tail may be imperfect in the latter.

[b] The syrinx and wing-muscles has been studied by Mr. W. P. Pycraft, who found them typically Oscinine. (See Bull. Brit. Orn. Club, xi, no. lxxiv, 1900, 12.)

[Since the above was written another article, by Mr. Pycraft, entitled "On the Systematic Position of Zeledonia coronata, with some Observations on the Position of the Turdidæ," has appeared in Ibis, Jan., 1905, 1-24, pls. 1, 2.]

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ZELEDONIA CORONATA Ridgway.

WREN-THRUSH.

Adults (*sexes alike*).—Pileum with a broad median patch of tawny, the feathers paler and more yellowish basally, their tips sometimes dusky, slightly obscuring the general color; this tawny patch margined laterally by a stripe of dull black, gradually disappearing anteriorly into the dusky slate-gray of forehead and lores but posteriorly rather abruptly defined against the dusky olive of occiput and hindneck; back, scapulars, wing-coverts, rump, and upper tail-coverts plain dark brownish olive with a slight tinge of olive-green; the remiges and rectrices similar but rather browner; sides of head (including superciliary and loral regions), chin, and under parts generally, plain slate color, slightly paler on lower abdomen, the flanks and under tail-coverts plain dark olive, the whole of posterior under parts sometimes washed with olive-green; bill blackish, the mandible more brownish, especially basally; iris dark brown; legs and feet brownish black or dusky brown.

Young.—Similar to adults, but orange-rufous crown-patch much smaller and less sharply defined, the blackish lateral crown-stripes replaced by very indistinct ones of dusky (these obsolete anteriorly), and sides of head and under parts olive instead of dull slate color. (No trace of streaks or spots anywhere, but feathers of under parts of body with a barely perceptible narrow terminal margin of dusky.)

Adult male.—Length (skins), 107–118 (113.2); wing, 60.5–64.5 (62.2); tail, 36–39 (37.6); exposed culmen, 12.5–13 (12.6); tarsus, 29–30.5 (29.6); middle toe, 17–18 (17.3).[a]

Adult female.—Length (skin), 108–113 (110.5); wing, 59.5–60.5 (60); tail, 33.5–35 (34.2); exposed culmen, 11.5–12 (11.7); tarsus, 26.5–29.5 (28); middle toe, 14.5–17 (15.7).[b]

[a] Five specimens.

[b] Two specimens, both from Costa Rica.

Costa Rica and Chiriqui specimens compare in measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
Three adult males from Volcan de Irazú, Costa Rica	61.3	(36)	12.7	29.3	17.2
Two adult males from Boquete, Chiriqui	63.5	38.5	12.5	30	17.5

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High mountain peaks of Costa Rica (Volcan de Poás; Volcan de Irazú)[a] and Chiriqui (Volcan de Chiriqui, 5,800–7,000 feet).

Zeledonia coronata RIDGWAY, Proc. U. S. Nat. Mus., xi, sig. 34, Sept. 20, 1889, 538 (Volcan de Poás, Costa Rica; coll. U. S. Nat. Mus.).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 51 (Boquete, Chiriqui, 5,800 to 7,000 ft.).—PYCRAFT, Ibis, 1905, 1–24, pls. 1, 2 (on systematic position).

[*Zeledonia*] *coronata* SHARPE, Hand-list, iv, 1903, 183.

Genus CICHLHERMINIA Bonaparte.

Cichlherminia BONAPARTE, Compt. Rend., xxxviii, 1854, 3 (Notes Orn. Coll. Delattre, p. 26). (Type, by elimination, *Turdus l'herminieri* Lafresnaye.)

Cichlerminia (emendation) SCLATER, Proc. Zool. Soc. Lond., 1859, 335.

Large, stoutly-built, short-tailed, long-legged Turdidæ with large and stout bill, color uniform brown above, brown with pointed spots of white below.

Bill large and stout, shorter than head, about as broad as deep at frontal antiæ; exposed culmen about as long as middle toe without claw, or slightly shorter, rather strongly convex from the nearly straight basal portion, the tip of maxilla distinctly but not strongly uncinate; gonys straight or very faintly convex, ascending terminally, slightly longer than mandibular rami; maxillary tomium faintly concave in middle portion, still more faintly convex subbasally, very distinctly notched subterminally. Nostril oval or ovate, occupying about lower half of exposed portion of nasal fossæ, overhung by concave membrane, posteriorly nearly or quite in contact with frontal feathering. Rictal bristles very distinct, those near nostrils especially so; loral and frontal feathers without bristly points. Orbital region naked, or partly so. Wing rather long and pointed, the longest primaries exceeding longest secondaries by length of middle toe (with-

[a] The only specimen seen from the Volcan de Irazú is very different in coloration from any other specimen examined, but I am satisfied that the coloration is abnormal, indicating a condition of partial albinism. It bears in Mr. Cherrie's handwriting on the label the name *Zeledonia insperata* Cherrie and, should other specimens from Irazú prove to be like it in coloration, that name would of course be available for it as representing a distinct form, which I consider altogether unlikely, since the Volcan de Irazú is intermediate in position between the volcanoes of Poás and Chiriqui, the birds of which are, so far as I am able to see, precisely alike in coloration. The Irazú specimen may be described as follows:

Similar in pattern of coloration to *Z. coronata* (from the Volcan de Poás and Volcan de Chiriqui), but the dark olive of back, scapulars, etc., replaced by rather light tawny-olive; that of wings and tail by light grayish brown (between broccoli brown and isabella color); deep slate-color of sides of head and under parts replaced by drab-gray; bill, legs, and feet pale brown instead of blackish.

The tawny crown-patch is somewhat lighter in tone and broader, but its increased width may be owing to greater spreading apart of the feathers in making up the skin. The broad black lateral crown-stripes of normal *Z. coronata* are indicated by decidedly narrower stripes of dark sooty grayish.

(See Addenda.)

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out claw) or more; outermost (tenth) primary longer than primary coverts (about one-third as long as ninth or slightly more), rounded at tip, ninth primary equal to or longer than fourth; eighth, seventh, and sixth longest and nearly equal; eighth to fifth (inclusive) with outer webs sinuated. Tail much shorter than distance from bend of wing to end of secondaries, even. Tarsus long and slender, one-third as long as wing, or more, the acrotarsium fused on both sides; middle toe (without claw) three-fifths as long as tarsus, or slightly less; lateral toes equal, both (without claw) reaching a little beyond subterminal articulation of middle toe; hallux shorter than inner toe; basal phalanx of middle toe adherent for more than half its length to outer toe, for nearly half to inner toe; claws slightly curved, rather blunt, that of the hallux sometimes nearly as long as its digit.

Coloration.—Upper parts uniform brown; under parts brown, the feathers (at least on under parts of body) with pointed central spots of white.

Nidification.—Nest open above, and placed in trees, composed of twigs, vines, or moss, lined with small roots or plant stems; eggs blue, unspotted.

Range.—Lesser Antilles, where represented on islands of Guadeloupe, Montserrat, Santa Lucia, Saint Vincent, Dominica, and Martinique. (Four species.)

KEY TO THE SPECIES AND SUBSPECIES OF CICHLHERMINIA.

a. Throat and upper chest streaked with light olive-brown and whitish or pale ochraceous; inner webs of primaries pale cinnamon toward edges.

b. Feathers of chest with narrower, smaller, and more pointed central spots of pale ochraceous, the brown margins paler, more tawny olive.

c. Abdomen almost wholly squamated with olive-brown; brown of upper parts darker, more bister. (*Cichlherminia herminieri.*)

d. Coloration less deep. (Island of Guadeloupe, Lesser Antilles.)
Cichlherminia herminieri herminieri (p. 74)

dd. Coloration deeper. (Island of Montserrat, Lesser Antilles.)
Cichlherminia herminieri lawrencii (p. 75)

cc. Abdomen mostly white; brown of upper parts lighter, more olive. (Island of Santa Lucia, Lesser Antilles.).....**Cichlherminia sanctæ-luciæ** (p. 75)

bb. Feathers of chest with broader, larger, and more rounded central spots of white, the brown margins darker, more sepia brown. (Island of Martinique ?, Lesser Antilles.).....**Cichlherminia coryi** (p. 76)

aa. Throat and upper chest deep brown, slightly broken by dusky spotting, but streaked only (if at all) on center of throat; inner webs of primaries entirely gray. (Island of Dominica, Lesser Antilles.)..**Cichlherminia dominicensis** (p. 77)

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CICHLHERMINIA HERMINIERI HERMINIERI (Lafresnaye).

GUADELOUPE FOREST THRUSH.

Adults (*sexes alike*).—Above plain olive-brown; chin and throat buffy whitish or pale rusty buff streaked with light olive-brown, the latter prevailing on lower portion and sides of throat, the extreme lower throat and upper chest rather light olive-brown or raw-umber with median streaks of pale buff or rusty white; feathers of lower chest, breast, abdomen (except extreme lower portion), sides, and flanks white centrally, margined with olive-brown, producing a squamate appearance, the white central area of each feather obtusely pointed at the extremity, these white central spots smaller and the olive-brown margin correspondingly broader anteriorly, and vice versa; extreme lower abdomen and anal region immaculate white, or with a few of the feathers indistinctly tipped with olive; under tail-coverts more or less distinctly margined or edged with light olive-brown; axillars and under wing-coverts white, more or less distinctly edged with pale olive-brown or wood brown, their basal portion also brown; maxilla brownish; mandible yellowish (in dried skins); naked orbital space yellowish; legs and feet yellowish (in dried skins).

Young.—Essentially like adults, but scapulars[a] with narrow shaft-streaks of pale ochraceous or rusty whitish, and brown margins to feathers of under parts less sharply defined.

Adult male.—Length (skins), 243–247 (245); wing, 133.5–144 (136.4); tail, 92–99 (95.5); exposed culmen, 24.5–25.5 (24.9); tarsus, 42–44.5 (44); middle toe, 23.5–25.5 (24.4).[b]

Adult female.—Length (skin), 245; wing, 132.5; tail, 88.5; exposed culmen, 25.5; tarsus, 40; middle toe, 24.[c]

Island of Guadeloupe, Lesser Antilles.

Turdus l'herminieri LAFRESNAYE, Rev. Zool., vii, May, 1844, 167 (Guadeloupe, Lesser Antilles; type now in coll. Bost. Soc. Nat. Hist.).

Cichlherminia herminieri BONAPARTE, Compt. Rend., xxxviii, 1854, 2.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 327.—CORY, Auk, iii, 1886, 7, part (Guadeloupe); viii, 1891, 43 (revised synonymy); ix, 1891, 49 (Guadeloupe); Birds West Ind., 1889, 21, part (do.); Cat. West Ind. Birds, 1892, 19, 121, 133 (Guadeloupe).

[*Cichlherminia*] *herminieri* SHARPE, Hand-list, iv, 1903, 116 (Guadeloupe).

[*Turdus*] *l'herminierii* GRAY, Hand-list, i, 1869, 259, no. 3788.

Margarops herminieri LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 452 (Guadeloupe), 486, part (Guadeloupe).

Cichlerminia bonapartii SCLATER, Proc. Zool. Soc. Lond., 1859, 335 (Guadeloupe; monogr.).—BAIRD, Review Am. Birds, 1864, 59.

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[a] Possibly the interscapulars also; but the single specimen examined has partly assumed the adult plumage, the feathers on the back being of the new dress.

[b] Five specimens.

[c] One specimen; not fully adult, retaining part of the first plumage.

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CICHLHERMINIA HERMINIERI LAWRENCII (Cory).

MONTSERRAT FOREST THRUSH.

Similar to *C. h. herminieri*, but more richly colored, the brown of upper parts more saturated and of a warmer hue, brown borders to feathers of under parts darker, and central areas to feathers of chest pale tawny or ochraceous-buff.

Adult (sex not determined).—Length (skin), 250; wing, 136.5; tail, 97.5; exposed culmen, 25.5; tarsus, 43.5; middle toe, 25.5.[a]

Island of Montserrat, Lesser Antilles.

Cichlherminia lawrencii CORY, Auk, viii, no. 1, Jan. 1891, 44 (Montserrat, Lesser Antilles; coll. C. B. Cory); Cat. West Ind. Birds, 1892, 121, 132, 144 (Montserrat).

Cichlherminia lawrencei CORY, Cat. West Ind. Birds, 1892, 19.

[*Cichlherminia*] *lawrencei* SHARPE, Hand-list, iv, 1903, 117 (Montserrat).

CICHLHERMINIA SANCTÆ-LUCIÆ (Sclater).

SANTA LUCIA FOREST THRUSH.

Similar to *C. herminieri herminieri*, but smaller, except bill and toes, the former larger, or relatively larger; brown of upper parts decidedly lighter (between raw-umber and broccoli brown, but much nearer the former); abdomen much more extensively (almost wholly) white; olive-brown margins to feathers of flanks and sides much narrower, and buffy central spots to feathers of chest larger or broader.[b]

Adult male.—Length (skin), 225; wing, 134.5; tail, 89; exposed culmen, 25.5; tarsus, 40.5; middle toe, 24.5.[c]

Adult female.—Length (skins), 234–236 (235); wing, 132.5–144 (138.2); tail, 91.5–98.5 (95); exposed culmen, 26.5; tarsus, 43–44 (43.5); middle toe, 25.5–26 (25.7).[d]

Islands of Santa Lucia, Lesser Antilles; island of St. Vincent?[e]

Margarops herminieri (not *Turdus l'herminieri* Lafresnaye) SCLATER, Proc. Zool. Soc. Lond., 1871, 268 (Santa Lucia; crit; colors of unfeathered parts); 1872, 647 (do.).—SEMPER, Proc. Zool. Soc. Lond., 1872, 647 (Santa Lucia habits; song).—(?) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 187 (St. Vincent).

[*Margarops*] *herminieri* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part (Santa Lucia).

Margarops sanctæ-luciæ SCLATER, Ibis, 4th ser., iv, Jan., 1880, 73 (Santa Lucia, Lesser Antilles; coll. P. L. Sclater).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 165 (Santa Lucia).—LAWRENCE, Bull. Nutt. Orn. Club, v, 1880, 165 (comparison with *C. herminieri*).—REICHENOW and SCHALOW, Journ. für Orn., 1880, 324 (reprint of orig. descr.).

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[a] One specimen, the type (no. 15056, coll. C. B. Cory).

[b] Iris dull green; feet bright yellow. (Semper, Proc. Zool. Soc. Lond., 1871, 268.)

[c] One specimen.

[d] Two specimens. (Four additional unsexed specimens examined.)

[e] Not having seen a specimen from St. Vincent I am in doubt as to its affinities. The St. Vincent bird has (when not mentioned under the name *C. herminieri*) been referred to *C. sanctæ-luciæ*, but it would not be at all surprising if it should be found distinct. It is very possibly extinct.

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Cichlherminia sanctæ-luciæ SHARPE, Cat. Birds Brit. Mus., vi, 1881, 328.—CORY, List Birds West Ind., 1885, 5; Auk, iii, 1886, 8; viii, 1891, 44 (revised synonymy; Santa Lucia; St. Vincent ?); Birds West Ind., 1889, 22; Cat. West Ind. Birds, 1892, 19, 121, 133 (Santa Lucia; St. Vincent).—SCLATER, Proc. Zool. Soc. Lond., 1889, 395 (Santa Lucia).

[*Cichlherminia*] *sanctæ-luciæ* SHARPE, Hand-list, iv, 1903, 117 (Santa Lucia; "St. Vincent").

CICHLHERMINIA CORYI Ridgway.

CORY'S FOREST THRUSH.

Most like *C. herminieri* but differing from that and all other known forms in having the chest marked with large ovate spots of white.

Adult (*sex unknown*).—Above plain warm-sepia brown, darker on pileum; sides of head and neck similar but rather paler, marked (except on malar region) with narrow shaft-streaks of pale buff; lores blackish; under parts white, the throat with cuneate streaks of light brown (wood brown or isabella color), the remaining under parts, including whole chest, breast, sides, flanks, and abdomen, marked with broad brown margins to the feathers, producing a conspicuously squamate appearance; anal region and extreme lower abdomen immaculate white; under tail-coverts grayish brown basally and laterally, buffy white or pale buff terminally and medially; bill, naked orbital space, legs, and feet, yellowish; length (mounted specimen), 235; wing, 132; tail, 93; exposed culmen (sheath of maxilla wanting); tarsus, 43; middle toe, 26.

Locality unknown, but probably island of Martinique, Lesser Antilles.[a]

(?) [*Margarops*] *herminieri* (not *Turdus l'herminieri* Lafresnaye) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part (Martinique).

(?) *Margarops herminieri* LAWRENCE, Proc. U. S. Nat. Mus., i, 1879, 351 (Martinique), 486, part (Martinique).

Cichlherminia coryi RIDGWAY, Smithson. Misc. Col. (quart. issue), xlvii, Aug. 6, 1904, 112 (locality unknown, but supposed to be island of Martinique, Lesser Antilles; coll. Boston Soc. N. H.).

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[a] The single specimen upon which this very distinct species is based is one of the two "types" of *Turdus l'herminieri* Lafresnaye, in the collection of the Boston Society of Natural History. The other specimen is exactly like other Guadeloupe specimens (*C. herminieri*) except that, having been for a long time mounted and exposed to the light, is slightly faded. The present one (no. 3618, Lafresnaye collection) is, however, unquestionably a different species, and is the only one of the group having the whole chest marked with large ovate spots of white, very nearly as large as those on the sides, flanks, and abdomen. As to the locality, there are only two islands besides those inhabited by well-known forms, namely, St. Vincent and Martinique. The forms which formerly inhabited these are probably now extinct. As long ago as 1878 Ober found the Martinique form "rare, owing to the persecution of hunters," and was unable to obtain a specimen (see Proc. U. S. Nat. Mus., i, 1878, 351), nor was he able to obtain, or even see, a specimen of the St. Vincent bird, although he heard its note (Proc. U. S. Nat. Mus., 1, p. 187). Martinique being a French possession, it is more likely that Lafresnaye obtained from there the specimen upon which I have based the new species rather than from the British island of St. Vincent.

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CICHLHERMINIA DOMINICENSIS (Lawrence).

DOMINICAN FOREST THRUSH.

Adults (*sexes alike*).—Above plain deep olive-brown or bister, darker on pileum; lores dusky or blackish; sides of head lighter olive-brown (between bister and mummy brown), the auricular region having narrow shaft-streaks of pale tawny or buffy; chin, throat, and upper chest similar but more or less distinctly streaked (broadly) with darker brown or dusky, the throat also more or less streaked with tawny or ochraceous; lower chest with feathers white and ochraceous or tawny centrally, broadly margined with brown and tipped with a rather large dusky spot, the feathers of breast (at least the upper portion) similarly marked but with brown margins narrower and running gradually into dusky on terminal portion; feathers of sides and flanks white centrally (forming large, pointed, ovate or broadly cuneate spots), broadly margined with olive-brown; abdomen and anal region immaculate white; under tail-coverts olive-brown, grayish brown or brownish gray, extensively tipped with white, the white terminal spot sometimes margined basally with ochraceous or tawny; axillars and under wing-coverts white, sometimes edged with brown or tawny; maxilla brownish basally, paler and more yellowish terminally; maxilla yellowish; iris white[a] or "tea color";[b] bare orbital space yellow; legs and feet yellowish (yellow in life).

Adult male.—Length (skins), 221–240 (229); wing, 120.5–125 (122.1); tail, 76.5–81.5 (79.3); exposed culmen, 24.5–26.5 (25.1); tarsus, 42.5–44.5 (43.5); middle toe, 23.5–26 (24.7).[c]

Adult female.—Length (skins), 225–230 (227.5); wing, 118–119 (118.5); tail, 78.5–80 (79.2); exposed culmen, 26–26.5 (26.2); tarsus, 43–43.5 (43.2); middle toe, 24.5–26 (25.2).[d]

Island of Dominica, Lesser Antilles.

Margarops herminieri (not *Turdus l'herminieri* Lafresnaye) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 52 (Dominica); i, 1879, 486, part (Dominica).

Margarops dominicensis LAWRENCE, Proc. U. S. Nat. Mus., iii, Mar. 27, 1880, 16 (Dominica, Lesser Antilles; coll. U. S. Nat. Mus.).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 432 (reprint of orig. descr.).

Cichlherminia dominicensis SHARPE, Cat. Birds Brit. Mus., vi, 1881, 328.—CORY, Auk, iii, 1886, 8, part (Dominica); viii, 1891, 44, part (do.); Birds West Ind., 1889, 22 (Dominica); Cat. West Ind. Birds, 1892, 19, 121 (Dominica).—VERRILL (G. E.), Trans. Conn. Acad. Sci., viii, 1892, 346 (Dominica; descr. nest and eggs; notes, etc.).

[*Cichlherminia*] *dominicensis* CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 117 (Dominica).

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[a] According to Verrill.
[b] According to Ober.
[c] Five specimens.
[d] Two specimens.

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Genus MIMOCICHLA Sclater.

Mimocichla SCLATER, Proc. Zool. Soc. Lond., 1859, 336. (Type, *Turdus rubripes* Temminck.)

Mimokitta BRYANT, Proc. Bost. Soc. N. H., ix, 1865, 371. (Type, *Turdus plumbeus* Linnæus.)

Mimocitta (emendation) NEWTON, Ibis, 1866, 121, in text.

Medium-sized Turdidæ with rather long and pointed wing, rather long and strongly rounded or graduated white-tipped tail, naked eyelids, and (in life) red or deep orange legs and feet, the prevailing color of plumage uniform bluish gray or slate color.

Bill shorter than head, moderately stout, slightly broader than high at frontal antiæ; exposed culmen about equal in length to middle toe without claw (sometimes a little longer or shorter), highest above nostril, whence gently sloping downward basally and gradually decurved terminally; gonys slightly convex or nearly straight, ascending terminally, slightly to decidedly longer than mandibular rami; maxillary tomium nearly straight, distinctly notched subterminally. Nostril oval, overhung by rather narrow membrane, posteriorly in contact, or very nearly so, with frontal feathering. Rictal and decumbent post-nasal bristles well developed; loral feathers with fine bristle-like points. Eyelids naked (bright orange or red in life). Wing rather long and pointed, the longest primaries exceeding longest secondaries by length of middle toe (without claw) or more; outermost (tenth) primary longer than primary coverts, about one-third as long as ninth, narrow, rather (sometimes decidedly) pointed; ninth equal to or (in *M. ardosiacea*) longer than third; eighth equal to or longer than fifth, sometimes equal to sixth and nearly as long as seventh; eighth and seventh or seventh and sixth longest; four primaries (eighth to sixth) with outer web sinuated. Tail slightly shorter than wing (decidedly shorter in *M. ravida*), decidedly longer than distance from bend to end of secondaries, strongly rounded or graduated, the graduation at least equal to length of gonys, usually equal to length of exposed culmen, or nearly so. Tarsus rather long (less than twice exposed culmen, decidedly less than one-third wing), the acrotarsium usually fused on both sides, sometimes with more or less distinct indications of segmental divisions ("scutella"); middle toe (without claw) less than two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux equal to or slightly shorter than inner toe; claws normal in size and curvature, that of hallux decidedly longer than its digit.

Coloration.—General color plain slate color or bluish slate-gray; wings and tail black (except in *M. ravida*), the former with broad bluish gray edgings, the latter with broad white tips to lateral rectrices; chin white, and throat black or streaked black and white, or else

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(*M. ravida*) chin and throat slate-gray; bill, naked orbital ring, legs, and feet bright orange or orange-red in life (the bill sometimes dusky); sexes alike; young duller in color than adults, with breast, etc., indistinctly barred or transversely spotted with darker.

Nidification.—Nest open above, rather bulky, placed in trees, composed externally of shreds of bark, slender twigs, etc., lined with finer materials; eggs whitish, speckled, stippled, spotted, or blotched with brown.

Range.—Peculiar to the West Indies (Bahamas, Cuba, Isle of Pines, Little Cayman, Cayman Brac, Grand Cayman, Haiti, Porto Rico, and Dominica). (Four species, with five additional subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF MIMOCICHLA.

a. Throat black, or streaked black and white; wings and tail black, the former with broad slate-gray edgings.

b. Throat white, streaked with black: abdomen and hinder flanks white. (*Mimocichla ardosiacea.*)

c. White of abdomen more restricted; gray of under parts deeper; white at end of lateral rectrices more restricted (not exceeding 45 mm. from tip).

d. Averaging smaller, with decidedly smaller bill (wing averaging less than 125; exposed culmen 22–23.5). (Island of Haiti, Greater Antilles.)

Mimocichla ardosiacea ardosiacea (p. 80)

dd. Averaging larger, with decidedly larger bill (wing averaging more than 126; exposed culmen 22.5–29, averaging nearly 25). (Island of Porto Rico, Greater Antilles.).....**Mimocichla ardosiacea portoricensis** (p. 81)

cc. White of abdomen more extended; gray of under parts paler; white at end of lateral rectrices more extended (reaching more than 50 mm. from tip). (Island of Dominica, Lesser Antilles.)

Mimocichla ardosiacea albiventris (p. 82)

bb. Throat black (the chin and anterior portion of malar region white); abdomen and flanks gray or ochraceous-buff.

c. Under tail-coverts slate-gray. (Bahama Islands.)...**Mimocichla plumbea** (p. 82)

cc. Under tail-coverts white. (*Mimocichla rubripes.*)

d. Abdomen and flanks ochraceous-buff.

e. Bill blackish or dusky red; ochraceous of abdomen deeper or more extended.

f. Smaller, with relatively smaller bill (wing averaging 124.9, tail 117.7, exposed culmen 23.5 in adult male). (Western Cuba.)

Mimocichla rubripes rubripes (p. 84)

ff. Larger, with relatively larger bill (wing averaging 127.6, tail 119.6, exposed culmen 24.7, in adult male). (Swan Island, Caribbean Sea.)

Mimocichla rubripes eremita (p. 85)

ee. Bill light reddish brown (red in life); ochraceous of abdomen more restricted, usually paler. (Island of Cayman Brac, near Cuba.)

Mimocichla rubripes coryi (p. 86)

dd. Abdomen and flanks slate-gray (sometimes with more or less of buff posteriorly, next to white of under tail-coverts). (Eastern Cuba.)

Mimocichla rubripes schistacea (p. 86)

aa. Throat plain slate-gray, like rest of under parts (only under tail-coverts white); wings and tail[a] uniform slate-color. (Island of Grand Cayman, near Cuba.)

Mimocichla ravida (p. 87)

[a] Except the usual white tips to lateral rectrices, found in all the species of the genus.

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MIMOCICHLA ARDOSIACEA ARDOSIACEA (Vieillot).

HAITIAN THRUSH.

Adults (*sexes alike*).—Above plain slate color or deep slate-gray, the feathers of pileum with more or less distinct mesial streaks of blackish; wings and tail black, the former with broad slate-gray edgings, nearly concealing the black in closed wing, except on tertials, alulæ, primary coverts, and terminal portion of primaries; outer webs of middle rectrices becoming dull slate color basally; rectrices (except middle pair[a]) tipped with white, this very extensive (about 32-42 mm.) on inner web of exterior rectrix, decreasing rapidly toward middle pair; loral and suborbital and anterior portion of malar region black or slate-black, the rest of auricular region, together with sides of neck, uniform slate color, like upper parts; malar region, chin, and throat, white, broadly streaked with black; chest, upper breast, sides, and flanks clear gray, deepest (about no. 6 gray) on chest, becoming slightly paler toward flanks, and fading into white on abdomen, the under tail-coverts entirely white; thighs gray, passing into whitish on tips of feathers; bill, bare orbital ring, legs, and feet yellowish in dried skins, bright yellow, orange, or orange-red in life; iris brown.[b]

Young.—Above much duller or more brownish slate than adults; gray of under parts paler and duller, the chest and sides more or less distinctly barred or transversely spotted (sometimes very faintly) with dusky.

Adult male.—Length (skins), 228–257 (241); wing, 119–128.5 (124.7); tail, 97–115.5 (106.7); exposed culmen, 21.5–23:5 (22.5); tarsus, 37–39 (38.3); middle toe, 21.5–23 (22.2)[c]

Adult female.—Length (skins), 215–268 (239); wing, 114.5–136.5 (124.9); tail, 93.5–123 (106.7); exposed culmen, 22.5–23 (22.8); tarsus, 36.5–40 (38.3); middle toe, 21.5–23.5 (22.5).[d]

Island of Haiti, Greater Antilles.

[*Turdus*] *plumbeus* (not of Linnæus, 1758) LINNÆUS, Syst. Nat., ed. 12, i, 1766, 294, part (quotes *Le Merle cendré d'Amerique* Brisson, Orn., ii, 288; Santo Domingo).—GMELIN, Syst. Nat., i, 1788, 814, part (supposed female).—LATHAM, Index Orn., ii, 1790, 334, part (supposed female).

Turdus plumbeus VIEILLOT, Ois. Am. Sept., ii, 1807, 2; Nouv. Dict. d'Hist. Nat., xx, 1818, 242.

M[*imus*] *plumbeus* GRAY, Gen. Birds, i, 1847, 221.

[*Mimus*] *plumbeus* BONAPARTE, Consp. Av., i, 1850, 276.

[*Galeoscoptes*] *plumbeus* CABANIS, Mus. Hein., i, 1850, 82, footnote.

Galeoscoptes plumbeus SALLÉ, Proc. Zool. Soc. Lond., 1857, 231 (Santo Domingo).—SCLATER, Proc. Zool. Soc. Lond., 1859, 337, part (monogr.; Santo Domingo).

[a] Even these are sometimes narrowly tipped with white.

[b] Iris "red-brown, eyelids, bill, feet, and legs light indian red, tip of bill and claws dusky." (Cherrie.)

[c] Six specimens.

[d] Five specimens.

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Turdus ardosiaceus VIEILLOT, Enc. Méth., ii, 1823, 648 (Santo Domingo).—BRYANT, Proc. Bost. Soc. N. H., x, 1866, 92 (Santo Domingo).

Mimocichla ardosiacea BAIRD, Review Am. Birds, July, 1864, 39.

[*Turdus*] *ardosiacea* GRAY, Hand-list, i, 1869, 263, no. 3844.

[*Mimocichla*] *ardesiaca* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2 (Haiti).—CORY, List Birds West Indies, 1885, 5, part (Haiti).—SHARPE, Hand-list, iv, 1903, 116, part.

Mimocichla ardesiaca SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 282, part (in synonymy).—CORY, Bull. Nutt. Orn. Club, vi, 1881, 151 (Fort Jacques and Port au Prince, Haiti; habits; notes; crit.); Birds Haiti and San Dom., 1885, 18, pls. 2, 3; Auk, iii, 1886, 6, part (Haiti); Birds West Ind., 1889, 20, part (Haiti); Cat. West Ind. Birds, 1892, 19, 122, 131, part (Haiti).—TRISTRAM, Ibis, 1884, 168 (Santo Domingo).—CHERRIE, Contr. Orn. San Dom., 1896, 9 (song, etc.).—CHRISTY, Ibis, 1897, 319 (La Vega and Sanchez, Santo Domingo).

MIMOCICHLA ARDOSIACEA PORTORICENSIS (Bryant).

PORTO RICAN THRUSH.

Similar to *M. a. ardosiacea*, but averaging larger, with decidedly larger bill;[a] bill, eyelids, legs, and feet bright yellow in life.[b]

Adult male.—Length (skins), 246–283 (261); wing, 122.5–138.5 (128.9); tail, 107.5–123 (115.1); exposed culmen, 23.5–29 (24.7); tarsus, 38–40.5 (39.5); middle toe, 21.5–24.5 (23.5).[c]

Adult female.—Length (skins), 250–272 (260); wing, 121.5–130 (126.3); tail, 102–120 (111.5); exposed culmen, 22.5–25.5 (24.6); tarsus, 36–39 (37.4); middle toe, 21–24 (22.5).[d]

Island of Porto Rico, Greater Antilles.

Galeoscoptes plumbeus (not *Turdus plumbeus* Linnæus) SCLATER, Proc. Zool. Soc. Lond., 1859, 337, part (Porto Rico; monogr.).

Mimocichla plumbea TAYLOR, Ibis, 1864, 166 (Porto Rico; fresh colors of unfeathered parts).

Turdus ardosiaceus (not of Vieillot) BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 250 (Porto Rico); Journ. für Orn., 1866, 184 (Porto Rico).

Mimocichla ardosiacea GUNDLACH, Journ. für Orn., 1874, 310 (Porto Rico); 1878, 159 (Porto Rico), 165 (Porto Rico; descr. nest and eggs); Anal. Soc. Esp. Hist. Nat., vii, 1878, 171 (Porto Rico).—BOWDISH, Auk, xx, 1903, 20 (Porto Rico; song, food, etc.).

Mimocichla ardesiaca SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 151, part (descr.; Porto Rico).—CORY, Auk, iii, 1886, 6, part (Porto Rico); Birds West Ind., 1889, 20, part (do.); Cat. West Ind. Birds, 1893, 19, 122, 131, part (do.).

[*Mimocichla*] *ardesiaca* CORY, List Birds West Ind., 1885, 5, part (Porto Rico.).—SHARPE, Hand-list, iv, 1903, 116, part.

Turdus ardosiaceus, var. *portoricensis* BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 93, in text (Porto Rico).

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[a] The color characters assigned by Doctor Bryant do not hold good in the series examined. There may be a difference in the color of the bill, legs, feet, and orbital ring in life or in freshly killed specimens, but in dried skins I can not detect any difference.

[b] Taylor, Ibis, 1864, 166.

[c] Ten specimens

[d] Seven specimens.

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MIMOCICHLA ARDOSIACEA ALBIVENTRIS Sclater.

VERRILL'S THRUSH.

Similar to *M. a. ardosiacea* and *M. a. portoricensis*, but with shorter and more rounded wing, longer and more slender tarsi, paler under parts, with abdomen more extensively white (the white more or less tinged with buff), and white of rectrices much more extended.[a] Young in first plumage differing from that of *M. a. ardosiacea* and *M. a. portoricensis* in having the under parts strongly tinged with buff, the thighs almost cinnamon-buff, and the under wing-coverts extensively cinnamon-colored terminally.

Adult male.—Length (skin), 255; wing, 120; tail, 114; exposed culmen, 23; tarsus, 39; middle toe, 22.[b]

Island of Dominica, Lesser Antilles.

Mimocichla ardesiaca albiventris SCLATER, Proc. Zool. Soc. Lond., 1889, 326, in text (Dominica, Lesser Antilles).—CORY, Cat. Birds W. I., 1892, 122, 157 (Dominica).

Mimocichla ardesiaca (not *Turdus ardosiaceus* Vieillot) SCLATER, Proc. Zool. Soc. Lond., 1889, 326 (Dominica).

Mimocichla albiventris ALLEN, Auk, viii, July, 1891, 317, in text (crit.).—CORY, Cat. West Ind. Birds, 1892, 19, 132 (Dominica).

[*Mimocichla*] *albiventris* SHARPE, Hand-list, iv, 1903, 116.

Mimocichla verrillorum ALLEN, Auk, viii, no. 2, Apr. 1891, 217 (Lasswa, Dominica, Lesser Antilles; coll. A. H. and G. E. Verrill), 317 (crit. nomencl.).—VERRILL, Trans. Conn. Acad. Sci., viii, 1892, 347, pl. 27, fig. 3 (Lasswa, Dominica; crit.).

MIMOCICHLA PLUMBEA (Linnæus).

BAHAMAN THRUSH.

Similar to *M. rubripes schistacea*, but with under tail-coverts and anal region slate-gray, like rest of under parts, and white of chin and malar region more restricted.

Adult male.—Above plain slate color; wings and tail black, the former with broad bluish slate-gray edgings, almost concealing the black in the closed wing, except on tertials, and terminal portion of primaries, primary coverts, and alulæ, where the bluish gray edgings are much narrower; outer webs of four middle rectrices with basal portion partly slate color; inner webs of lateral rectrices extensively white (this more restricted toward middle rectrices), the corresponding portion of outer web gray; lores, suborbital region, and whole

[a] Having only one specimen for comparison, and that in very much abraded plumage, I am unable to give the characters of this form with precision. In the specimen examined the white on inner web of the lateral rectrix extends 52 mm. from the tip, the maximum in a large series of the other two forms being about 10 mm. less. A specimen in first plumage is very different from the corresponding stage of the two more northern forms, as pointed out above.

[b] Measurements of an adult male as given by Dr. J. A. Allen (Auk, viii, 1891, 217), converted into millimeters, are as follows: Length (skin), 255.5; wing, 116.8; tail, 114.3; exposed culmen, 21.6; tarsus, 38.1.

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throat black; chin and anterior portion of malar region white; sides of head and neck (except as described) uniform slate color or deep slate-gray, like upper parts, the under parts posterior to the black throat-patch similar but becoming very slightly paler (more slate-gray) posteriorly; bill varying from black to reddish, usually reddish dusky; iris brown; bare orbital ring, legs, and feet bright orange-red or vermilion in life, yellowish in dried skins; length (skins), 242–261 (254); wing, 116–128 (122); tail, 110–120.5 (114.7); exposed culmen, 23–25 (23.9); tarsus, 35–39 (36.8); middle toe, 20.5–23.5 (22).[a]

Adult female.—Similar to the male and often not distinguishable, but usually very slightly duller slate color and with white tips to lateral rectrices more restricted; length (skins), 233–256 (246); wing, 113–123 (117.5); tail, 100–113 (107.7); exposed culmen, 22–26 (23.8); tarsus, 34.5–36.5 (35.6); middle toe, 20–22 (21.1).[b]

Young.—Much paler and duller in color than adults, the black of throat replaced by dull sooty or sooty spotting, the chest, breast, etc., more or less distinctly barred or transversely spotted with sooty; middle and greater wing-coverts with indistinct terminal triangular spots of dull whitish, and scapulars and interscapulars with very narrow shaft-streaks of the same.

Bahama Islands (Great Bahama,[c] Abaco, Little Abaco, Eleuthera, New Providence, Andros,[c] and San Salvador, or Cat, islands.

[*Turdus*] *plumbeus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 169 (based exclusively on *Turdus viscivorus plumbeus* Catesby, Nat. Hist. Carolina, i, 30, pl. 30); ed. 12, i, 1766, 294, part (includes *M. ardosiacea*).—GMELIN, Syst. Nat., i, 1788, 814, part (supposed male).—LATHAM, Index Orn., ii, 1790, 334, part (supposed male).—VIEILLOT, Ois. Am. Sept., ii, 1807, 2, pl. 58.—BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 68 (Bahamas).

Mimokitta plumbea BRYANT, Proc. Bost. Soc. N. H., ix, 1865, 371 (Bahamas; description).

[a] Eleven specimens.

[b] Ten specimens.

[c] No specimens seen by me from these islands.

Specimens from different islands compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Abaco	124	115.4	23.7	36.7	21.5
One adult male from Eleuthera	116	110	25	35	22
Five adult males from New Providence	121.9	114.5	23.8	36.8	22.2
One adult male from Cat I	124.5	117	23.5	39	23.5
FEMALES.					
Four adult males from Abaco	116.2	105	23.6	35.1	20.6
One adult female from Eleuthera	120.5	108	23.5	36	21.5
Five adult females from New Providence	117.9	109.9	24.1	36	21.4

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Turdus plumbeus BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 68 (Bahamas).

Mimocichla plumbea BAIRD, Review Am. Birds, July, 1864, 36 (Nassau, New Providence, Bahamas).—CORY, Birds Bahama I., 1880, 45, pl. 11; Auk, iii, 1886, 6; Birds West Ind., 1889, 20; Cat. West Ind. Birds, 1892, 19, 122, 127 (Gt. Bahama, Abaco, Eleuthera, New Providence, and Andros islands, Bahamas); Auk, viii, 1891, 294 (New Providence), 298 (Abaco), 350 (Great Bahama; Abaco), 351 (Eleuthera).—NORTHROP, Auk, viii, 1891, 66 (Andros I.).—RIDGWAY, Auk, viii, 1891, 333 (Abaco), 335 (New Providence), 336 (Eleuthera).—BANGS, Auk, xvii, 1900, 289 (New Providence; descr. young).—BONHOTE, Ibis, 1903, 276 (New Providence and Little Abaco islands; habits).—ALLEN (G. M.), Auk, xxii, 1905, 132 (Little Abaco; Great Abaco).

[*Mimocichla*] *plumbea* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 116.

Mimocitta plumbea NEWTON, Ibis, 1866, 121, in text.

[*Mimus*] *plumbeus* GRAY, Hand-list, i, 1869, 263, no. 3843.

Mimus rubripes (not *Turdus rubripes* Temminck) BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 114 (New Providence I.).—ALBRECHT, Journ. für Orn., 1861, 52 (Bahamas).

Mimocichla bryanti SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 280 (=*Turdus plumbeus* Linnæus).

MIMOCICHLA RUBRIPES RUBRIPES (Temminck).

RED-LEGGED THRUSH.

Adult male.—Above plain slate color (or between slate color and slate-gray), the wings and tail black with bluish slate-gray edgings (paler on primaries); lateral rectrices extensively white terminally, the outer web grayish terminally passing into white at tip; four middle rectrices entirely black except basal portion of outer web, which is slate-gray; lores and suborbital region black, passing into slate color on auricular region; sides of neck, chest, breast, and anterior portion of sides plain slate color or deep slate-gray, like upper parts, becoming slightly paler and duller posteriorly, the abdomen, anal region, thighs, and hinder flanks plain tawny-ochraceous; under tail-coverts white; chin and at least anterior half of malar region white; throat and posterior portion of malar region black, the feathers white at base or edged with white basally, except on extreme lower portion of throat; bill black, or dusky more or less tinged with red; iris brown; bare orbital ring, legs, and feet yellowish in dried skins, bright orange-red or vermilion in life; length (skins), 241–267 (250); wing, 116–129 (124.9); tail, 111–122 (117.7); exposed culmen, 22.5–24.5 (23.5); tarsus, 34.5–39 (36.9); middle toe, 21–23.5 (22.5).[a]

Adult female.—Similar to the adult male and often not distinguishable, but usually very slightly duller in color; length (skins), 225–258 (241); wing, 113–127.5 (119.7); tail, 103–116.5 (109.2); exposed culmen, 22–25 (23.3); tarsus, 32–37.5 (35.1); middle toe 20–22.5 (21.4).[a]

Young.—Above plain slate-gray, duller than in adults, the lesser,

[a] Ten specimens.

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middle, and greater wing-coverts with terminal wedge-shaped spots of buff or pale ochraceous; gray on outer webs of middle rectrices tinged with olive; lores and suborbital region dusky, not black; throat white, broadly streaked with black; upper chest mostly plain dull slate-gray, lower chest similar but intermixed with buff and spotted with dusky, the breast whitish with small transverse spots of dusky; abdomen, thighs, and hinder flanks pale ochraceous-buff; under tail-coverts white.

Island of Cuba (western portion), Greater Antilles.

Turdus rubripes TEMMINCK, Pl. Col., ii, livr. 69, Oct., 1826, pl. 409 (Cuba; coll. Mus. Leiden).—VIGORS, Zool. Journ., iii, 1827, 439.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 48, pl. 4.—GUNDLACH, Journ. Bost. Soc. N. H., vi, 1852, 318.

[*Mimus*] *rubripes* BONAPARTE, Consp. Av., i, 1850, 276.—GRAY, Hand-list, i, 1869, 263, no. 3841.

G[*aleoscoptes*] *rubripes* CABANIS, Mus. Hein., i, 1850, 82, footnote; Journ. für Orn., 1855, 470.

Galeoscoptes rubripes SCLATER, Proc. Zool. Soc. Lond., 1859, 336 (monogr.); Cat. Am. Birds, 1862, 6.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307.—GUNDLACH, Journ. für Orn., 1861, 406 (Cuba).

[*Galeoscoptes*] *rubripes* GUNDLACH, Journ. für Orn., 1861, 324 (Cuba).

Mimocichla rubripes BAIRD, Review Am. Birds, July, 1864, 38.—GUNDLACH, Journ. für Orn., 1872, 406 (Cuba; habits); Orn. Cubana, 1893, 49.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 283, part (excl. syn. *M. schistacea* Baird).—CORY, Auk, iii, 1886, 5; Birds West Ind., 1889, 19; Cat. West Ind. Birds, 1892, 19, 122, part (Cuba; Isle of Pines; Little Cayman).—CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 312 (near Trinidad, Cuba; habits).

[*Mimocichla*] *rubripes* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 115.

Mimocichla rubripes rubripes BANGS and ZAPPEY, Am. Nat., xxxix, no. 460, Apr., 1905, 208 (Isle of Pines; habits; crit.).

MIMOCICHLA RUBRIPES EREMITA Ridgway.

SWAN ISLAND THRUSH.

Similar to *M. r. rubripes*, but averaging larger, with shorter toes, and white of chin and malar region usually more extended.

Adult male.—Length (skins), 254–277 (261); wing, 121.5–130.5 (127.6); tail, 116.5–127.5 (119.6); exposed culmen, 22.5–27.5 (24.7); tarsus, 35–38 (36.1); middle toe, 20–22 (20.9).[a]

Swan Island, Caribbean Sea.

Mimocichla rubripes (not *Turdus rubripes* Temminck) RIDGWAY, Proc. U. S. Nat. Mus., x, 1887, 575 (Swan Island, Caribbean Sea; crit.).—CORY, Cat. West Ind. Birds, 1892, 19, 122, part (Swan Island).

Mimocichla rubripes eremita RIDGWAY, Proc. Biol. Soc. Wash., xviii, Oct. 17, 1905, 113 (Swan Island, Caribbean Sea; coll. U. S. Nat. Mus.).

[a] Seven specimens. (No adult female seen.)

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MIMOCICHLA RUBRIPES CORYI (Sharpe).

CAYMAN BRAC THRUSH.

Similar to *M. r. rubripes*, but smaller, with larger bill and relatively shorter tail; bill light brown (reddish in life?) instead of black or dusky; upper parts lighter slate-gray; lores and suborbital region dusky gray instead of blackish; white terminal spaces of outer rectrices smaller, and ochraceous-buff of abdomen either paler or less extended.

Adult male.—Length (skins), 240–260 (250); wing, 116.5–130 (123.2); tail, 109.5–115.5 (112.5); exposed culmen, 23–27 (25); tarsus, 34–38.5 (36.2); middle toe, 21.5–22 (21.7).[a]

Adult female.—Length (skin), 235; wing, 120.5; tail, 110.5; exposed culmen, 23.5; tarsus, 35; middle toe, 21.5.[b]

Island of Cayman Brac (south of Cuba), Greater Antilles.

Mimocichla rubripes (not *Turdus rubripes* Temminck) CORY, Auk, vi, 1889, 31 (Cayman Brac).

Mimocichla coryi SHARPE, in Seebohm's Monogr. Turdidæ, ii, 1902, 212 (Cayman Brac I., south of Cuba; coll.?).

[*Mimocichla*] *coryi* SHARPE, Hand-list, iv, 1903, 116.

MIMOCICHLA RUBRIPES SCHISTACEA (Baird).

SLATE-COLORED THRUSH.

Similar to *M. r. rubripes*, but without any ochraceous-buff on under parts, or else this greatly reduced in extent and much paler (buff or pinkish buff), the under parts of the body in typical examples entirely plain slate-gray except extreme posterior part of flanks and abdomen, which are white, like the under tail-coverts; thighs light slate-gray; bill reddish (brownish in dried skins), rarely, if ever, blackish.

Adult male.—Length (skins), 250–271 (260); wing, 120.5–137 (129.1); tail, 105–126.5 (118); exposed culmen, 22–26 (24.1); tarsus, 36.5–40 (38); middle toe, 22–24.5 (23.3).[c]

Adult female.—Length (skins), 240–254 (248); wing, 111–127 (118.3); tail, 98–117 (109.9); exposed culmen, 22.5–26 (21.8); tarsus, 33.5–37 (35.6); middle toe, 20.5–24 (22).[d]

Island of Cuba (eastern portion), Greater Antilles.

Mimocichla schistacea BAIRD, Review Am. Birds, July, 1864, 37 (Monte Verde, e. Cuba; coll. U. S. Nat. Mus.).—GUNDLACH, Journ. für Orn., 1871, 293 (Cuba); 1872, 407 (crit., etc.); Orn. Cubana, 1893, 50.—CORY, Auk, iii, 1886, 5; Birds West Ind., 1889, 19; Cat. West Ind. Birds, 1892, 19, 122, 129, 157.

[*Mimocichla*] *schistacea* CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 116.

[*Mimus*] *schistacea* GRAY, Hand-list, i, 1869, 263, no. 3842.

Mimocichla rubripes (not *Turdus rubripes* Temminck) SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 283, part (in synonymy).

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[a] Two specimens.
[b] One specimen.
[c] Eleven specimens.
[d] Ten specimens.

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MIMOCICHLA RAVIDA Cory.

GRAND CAYMAN THRUSH.

Adults (*sexes alike*).—Uniform bluish slate-gray or deep plumbeous, including wings and tail, the lores very slightly darker; lower central portion of abdomen, anal region, under tail-coverts, and terminal portion of inner webs of rectrices (except middle pair) white; bill, bare orbital space, legs, and feet, yellowish (bright orange or orange-red in life?).

Young.—Wings and tail as in adults; rest of upper parts grayish brown, the feathers of pileum with narrow (sometimes very indistinct) shaft-streaks of paler buffy brown; anterior and lateral under parts light wood brown, the abdomen buffy white, indistinctly spotted or clouded with pale grayish brown or buffy brown; under tail-coverts white.

Adult male.—Length (skin), 247; wing, 130; tail, 123; exposed culmen, 26.5; tarsus, 40.5; middle toe, 23.5.[a]

Adult female.—Length (skin), 245; wing, 127; tail, 122; exposed culmen, 28; tarsus, 42; middle toe, 23.5.[a]

Island of Grand Cayman (south of Cuba), Greater Antilles.

Mimocichla ravida Cory, Auk, iii, no. 4, Oct., 1886, 499, 501 (Grand Cayman Greater Antilles; coll. C. B. Cory); v, 1888, 156; Birds West Ind., 1889, 285; Cat. West Ind. Birds, 1892, 19, 122, 129, 157 (Grand Cayman).

[*Mimocichla*] *ravida* Sharpe, Hand-list, iv, 1903, 116.

Genus HAPLOCICHLA Ridgway.

Haplocichla[b] Ridgway, Proc. Biol. Soc. Wash., xviii, Oct. 17, 1905, 212. (Type, *Turdus aurantius* Gmelin.)

Medium-sized Turdidæ resembling and nearly related to *Mimocichla* but differing in relatively much shorter wing (less than three times as long as tarsus instead of nearly three and a half times as long), relatively shorter and much less rounded tail (graduation less than length of gonys), feathered eyelids, absence of white on rectrices and presence of white on wings, and general plain grayish brown coloration.

Bill shorter than head, compressed terminally, somewhat depressed basally, its height at frontal antiæ equal to its width at same point; exposed culmen slightly longer than middle toe (without claw), straight for about terminal half, then gradually and increasingly decurved terminally, the tip of maxilla obviously uncinate; gonys slightly convex, ascending terminally, slightly longer than mandibular rami, the latter distinctly narrower than middle portion of mandible; maxillary tomium nearly straight, distinctly notched subterminally. Nostril narrowly oval or elliptical, posteriorly in contact with latero-frontal feathering, margined above by a very narrow concave membrane. Rictal and post-nasal bristles well developed; loral feathers

[a] One specimen. [b] Ἁπλόυς, simple, plain; κίχλη, a thrush or thrush-like bird.

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with minute bristle-like points. Eyelids and orbital region normally feathered. Wing rather short, the longest primaries exceeding longest secondaries by less than length of exposed culmen; outermost (tenth) primary decidedly longer than primary coverts, one-third as long as ninth, the latter equal to fourth; eighth primary equal to the longest (eighth, seventh, and sixth); four primaries (eighth to fifth) with outer webs sinuated. Tail decidedly shorter than wing but slightly longer than bend to end of secondaries, slightly but distinctly rounded (graduation less than length of gonys). Tarsus long and rather slender, more than one-third as long as wing, the acrotarsium showing traces of segmental subdivisions, with one distinct segment (scutellum) at upper end; middle toe (without claw) less than two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux slightly shorter than inner toe; basal phalanx of middle toe united for more than basal half to outer toe, for less than half to inner toe; claws normal, or rather small, that of the hallux decidedly shorter than its digit.

Coloration.—Above plain brownish slate color, including wings and tail, the former with a narrow longitudinal white patch involving outer web of two innermost greater coverts; under parts plain brownish gray, with chin, abdomen, and tips of under tail-coverts white; bill bright orange, legs and feet dull orange in life.

Nidification.—Nest loosely constructed of rootlets and other vegetable fibers, open above, placed in a small tree or bush, sometimes in hollow stump or other convenient place; eggs white or buffy white, more or less thickly speckled, spotted, or splashed with brown or reddish brown.[a]

Range.—Greater Antilles (peculiar to the island of Jamaica). (*Monotypic.*)

HAPLOCICHLA AURANTIA (Gmelin).

WHITE-CHINNED THRUSH.

Adults (*sexes alike*).—Above plain dark grayish brown or sooty slate, relieved by a small longitudinal white patch on upper part of wing, involving outer web of two innermost greater coverts; pileum and tail more or less darker than back, sometimes sooty blackish; sides of head similar in color to upper parts, fading gradually into plain grayish brown or brownish gray (nearly hair brown) on throat, chest, breast, sides, and flanks, the color becoming gradually somewhat paler posteriorly; chin, abdomen, and median portion of lower breast white; under tail-coverts brownish slate color, tipped with white; bill, legs, and feet yellowish (bright orange in life); iris "dull orange."[b]

[a] Resembling somewhat eggs of *Mimocichla*.

[b] Gosse, Birds Jamaica.

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Young.—Wings and tail as in adults, but slightly browner; rest of upper parts plain [a] grayish brown (nearly prouts brown); throat, chest, upper breast, sides, and flanks paler brown (nearly wood brown); lower breast and abdomen dull white, indistinctly spotted with light brown.

Adult male.—Length (skins), 228–245 (238); wing, 116–127 (122.5); tail, 97–108 (102); exposed culmen, 22–25.5 (23.8); tarsus, 34.5–40.5 (38.6); middle toe, 22–25 (23.4).[b]

Adult female.—Length (skins), 234–244 (238); wing, 113–123 (117.6); tail, 96–105 (98.6); exposed culmen, 23–24.5 (23.8); tarsus, 35–39.5 (38); middle toe, 22–25 (24).[c]

Island of Jamaica, Greater Antilles.

[*Turdus*] *aurantius* GMELIN, Syst. Nat., i, pt. ii, 1788, 832 (based on *Le Merle de la Jamaique* Brisson, Orn., ii, 277; *Le Merle brun de la Jamaique* Buffon, Hist. Nat. Ois., iii, 391; *White-chinned Thrush* Latham, Gen. Synop. Birds, ii, pt. 1. 45).—GRAY, Hand-list, i, 1869, 258, no. 3765.—BONAPARTE, Consp. Av., i, 1850, 275.

T[*urdus*] *aurantius* GRAY, Gen. Birds, i, 1847, 219.

Turdus aurantius SCLATER, Proc. Zool. Soc. Lond., 1859, 333 (monogr.); 1861, 70; Cat. Am. Birds, 1862, 6.—ALBRECHT, Journ. für Orn., 1862, 192.—MARCH, Proc. Ac. Nat. Sci. Phila., 1863, 292.

[*Catharus*] *aurantius* BONAPARTE, Compt. Rend., xxxviii, 1854, 3.

Semimerula aurantia BAIRD, Review Am. Birds, July, 1864, 34 (Trelawney, Spanishtown, and Goshen, Jamaica).

S[*emimerula*] *aurantia* NEWTON (A. and E.), Handb. Jamaica, 1881, 105.

[*Semimerula*] *aurantia* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4.

[*Mimocichla*] *aurantia* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.

Mimocichla aurantia SALVIN, Cat. Strickland Coll., 1882, 11.

Merula aurantia SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 247 (Moneague, Jamaica).—CORY, Auk., iii., 1886, 3 (synonymy); Birds W. I., 1889, 17; Cat. W. I. Birds, 1892, 19, 122, 130.

[*Merula*] *aurantia* CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 125.

[*Turdus*] *leucogenus* LATHAM, Index Orn., i, 1790, 341 (based on *White-chinned Thrush* Latham, Gen. Synop. Birds, ii, pt. 1, 45).

Turdus leucogenus VIEILLOT, Nouv. Dict. d'Hist. Nat., xx, 1818, 254.

Merula leucogenys GOSSE, Birds Jamaica, 1847, 136; Illustr. Birds Jam., 1849, pl. 23.

Merula saltator HILL, Comp. Jam. Almanack, 1842, *fide* Gosse, Birds Jamaica, 1847, 140.

[*Turdus*] *americanus* LATHAM, Index Orn., i, 1790, 342 (based on *Turdus aurantius* Gmelin, Syst. Nat., i, 832; *Merula americana* Brisson, Orn., ii, 308, 51; *White-chinned Thrush* Latham, Synopsis, iii, 45, var. C., etc.)

[a] The single young specimen examined has partly assumed the adult plumage on the back and scapulars, but the feathers of the first plumage which remain, these covering most of the interscapular region and the entire pileum, show no trace of streaks or other markings.

[b] Nine specimens.

[c] Five specimens.

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Genus PLANESTICUS Bonaparte.

Merula (not of Koch, 1816)[a] LEACH, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 20. (Type, *Turdus merula* Linnæus).

(?)*Hodoiporus* REICHENBACH, Av. Syst. Nat., 1850, pl. 53. (Type, *Turdus jamaicensis* Gmelin?)

Planesticus BONAPARTE, Compt. Rend., xxxviii, 1854, 3; Notes Orn. Coll. Delattre, 1854, 27. (Type, *Turdus jamaicensis* Gmelin.)

Semimerula SCLATER, Proc. Zool. Soc. Lond., 1859, 332. (Type, *Turdus gigas* Fraser.)

Medium-sized to large Turdidæ with four primaries (eighth to fifth, inclusive) sinuated on outer webs, gonys equal to or longer than mandibular rami, the width of space between latter at base decidedly less than length of gonys; wing much more than three times (sometimes nearly five times) as long as tarsus, and base of remiges (on under side) without any definite light-colored area. (No definite or exclusive color-characters.)

Bill decidedly (usually much) shorter than head, compressed, its width at frontal antiæ not more (usually less) than its height at same point; exposed culmen decidedly shorter than middle toe (without claw), straight or nearly so basally (sometimes for basal third or more), then gradually and increasingly decurved terminally, the tip of mandible obviously though somewhat slightly uncinate; gonys longer than mandibular rami, straight or faintly convex, ascending terminally, its base sometimes forming an obvious prominence or angle; maxillary tomium faintly concave near middle, as faintly convex subbasally, distinctly notched subterminally. Nostril longitudinally oval, ovate, or elliptical, posteriorly in contact with laterofrontal feathering, margined above by membrane, the latter usually much narrower than the nostril. Rictal and decumbent post-nasal bristles well developed; loral feathers with minute bristle-like points. Wing variable as to relative length and proportionate development of primaries, but usually rather long and pointed, the longest primaries exceeding longest secondaries by at least the length of exposed culmen, sometimes by more than length of tarsus; outermost (tenth) primary variable as to relative size and form, sometimes shorter than primary coverts, sometimes very much longer, but never more than half as long as ninth,[b] usually rather narrow and more or less pointed,

[a] Type, *Turdus roseus* Linnæus.

[b] In *P. gigas* (type of *Semimerula* Sclater) and the allied *P. gigantodes* the tenth primary is half as long as the ninth and very broad. In most species of true *Planesticus* it is less than one-fourth as long and relatively narrow; but in *P. fuscatra*, *P. cacozela*, *P. fulviventris*, and *P. jamaicensis* it is more than one-third as long, the difference in the development of this quill-feather between the two species last mentioned and the two first named being decidedly less than between the former and that species having the smallest spurious primary (*P. migratorius*), in which it is only about one-fifth as long as the ninth. In short, scarcely two species agree in the relative size and exact

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but sometimes relatively broad and rounded at the tip;[a] ninth primary sometimes shorter than third (*P. fulviventris*), sometimes longer than fifth; eighth, seventh, and sixth, eighth and seventh, seventh and sixth, or sixth primaries longest; four primaries (eighth to fifth, inclusive) with outer web sinuated. Tail shorter than wing but usually longer than distance from bend of wing to end of secondaries (very slightly shorter than the latter only in *P. jamaicensis*, *P. phæopygus*, and *P. fumigatus*), even, or slightly rounded, the rectrices rather broad. Tarsus slightly more than one-fifth to more than one-third as long as wing (the variation depending more, however, on relative length of the wing, which differs much more than that of the tarsus), the acrotarsium completely fused on both sides; middle toe (without claw) usually about two-thirds as long as tarsus or slightly more (distinctly less than two-thirds only in *P. jamaicensis*, nearly three-fourths as long in *P. merula*); lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux slightly shorter than inner toe; basal phalanx of middle toe united for more than basal half to outer toe (for its entire length, or very nearly so in *P. fumigatus!*), for less than half to inner toe; claws variable in relative length and curvature, more slender and less strongly curved, that of hallux relatively longer (but shorter than its digit) in *P. merula* and *P. migratorius*, shorter and more strongly curved in other species.

Coloration.—Coloration extremely variable, the various American species (together with several Old World congeners) being classifiable according to this character into the following groups:

A.—*Sexes very different, the female conspicuously duller in color than the male.*

a. Adult males entirely black, females grayish brown.
P. merula and allies (Palæarctic).
P. infuscatus (Mexico and Guatemala).
P. atrosericeus and *M. serranus* (northern and western South America).

b. Adult male black with broad rufous collar round neck and chest.
M. rufitorques (Guatemala).

B.—*Sexes alike, or essentially so, in color.*

c. Throat more or less distinctly streaked, or else head black in contrast with gray of back; abdomen rufous.
1. Throat uniform dusky.
P. euryzonus (Colombia).

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shape of the tenth primary. It is true that all of the American forms, at least, except those named above (also *P. merula* and the African *P. olivacea*) come within the gap between *P. migratorius* on the one hand and *P. jamaicensis* on the other; but nevertheless *P. gigas* and *P. gigantodes* are so evidently nearly related to *P. nigrescens* and other species with "normal" tenth primary that I do not feel justified in recognizing a genus (*Semimerula*) based on this character alone.

[a] A pointed tip is not, however, always correlated with the narrower form, a relatively broad one sometimes having a pointed tip, and vice versa.

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2. Throat streaked, head blackish (at least in adult males).
   P. migratorius (North America).
   P. confinis (Lower California).
   P. magellanicus (southern South America).
   P. falklandicus (Falkland Islands).
3. Throat streaked, head not black; chest grayish; abdomen, or sides and flanks, fulvous.
   P. flavirostris (Mexico).
   P. rufiventris (Brazil, etc.)
   P. olivaceus (Africa).
4. Throat streaked, head not black; a white patch on lower throat; no fulvous on under parts.
   P. jamaicensis (Jamaica).
   P. tristis and subspecies (Mexico and Central America).
   P. phæopygus and subspecies (South America).
5. Throat streaked, head not black; no white patch on lower throat; color plain grayish or brownish, paler below.
   P. grayi (Mexico and Central America).
   P. obsoletus (Central America).
   P. plebejus (Central America).
   P. leucomelas, *P. albiventris*, and allies (South America).
   P. nigrirostris (Lesser Antilles).
   P. gymnophthalmus (Lesser Antilles and northern South America).
   P. fumigatus (northern South America).

d. Throat not streaked, the general coloration uniform sooty brown or dusky.
   P. nigrescens (Central America).
   P. gigas and allies (Andean district).
   P. fuscatra, *P. cacozela*, and allies (Andean district).

That these color-differences are of only secondary value in classification, so far as this group is concerned, is shown by the fact that very often the species most similar in color show the greatest structural differences, for example: *P. jamaicensis* compared with *P. tristis*, *P. phæopygus*, and allies; *P. nigrescens* compared with *P. gigas* and related forms; and *P. gymnophthalmus* compared with *P. albiventris*, *P. leucomelas*, etc.

Of all the American species none approach very closely in certain characters, especially the exceedingly compressed bill, long gonys (nearly twice as long as mandibular rami), and arched mesorhinium, to *P. merula*, and I am not at all certain that they are really congeneric. Probably a more thorough study of the group than I am at present able to give it would develop characters justifying the separation of all the American forms, together with at least some of the African ones, from *P. merula* and most of the other Old World forms, either as a single generic group or several. *P. fumigatus* almost certainly should be separated on account of the much greater adhesion of the anterior toes, no other thrush that I have been able to examine having practically the entire length of the basal phalanx of the middle toe united to the outer toe.

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Nidification.—Nest variously situated (usually in trees), rather bulky, open above, composed exteriorly of dried grass-stems, rootlets, etc., plastered inside with mud[a] and lined with finer grass-stems, etc.; eggs bluish green or greenish blue, more or less deep, sometimes immaculate, sometimes (in most species) speckled or spotted with brown.

Range.—Nearly cosmopolitan (wanting only in Australia, New Zealand, Polynesia, Galapagos Archipelago, and West Indies except Jamaica, St. Vincent, and Grenada); numerously represented in continental tropical America. (As in the case of *Turdus*, the number of species of this genus is indefinite, depending on the limits assigned to the group.)

KEY TO THE SPECIES AND SUBSPECIES OF PLANESTICUS.

a. Plumage unspotted (but throat sometimes streaked). (Adults.)
  b. Under tail-coverts at least partly white.
    c. Under tail-coverts white medially or terminally, gray or brown laterally or basally (or both).
      d. Under tail-coverts brownish gray or dusky with a median streak or narrow stripe of white; a more or less distinct rufescent or ochraceous collar across hindneck. (Highlands of Guatemala.).....**Planesticus rufitorques** (p. 96)
      dd. Under tail-coverts chiefly white for exposed portion.
        e. Whole throat white, streaked with blackish, dusky, or dark brown.
          f. No white patch on lower throat; sides and flanks (usually breast also) clear cinnamon-rufous, buff, or brownish cinnamon.
            g. Orbital region partly white; back and wing-coverts brownish gray, concolor with rest of upper parts.
              h. Head more dusky than rest of upper parts (black or blackish in adult males); white superciliary stripe interrupted above eye; under wing-coverts, breast, etc., tawny-ochraceous, cinnamon-rufous, or almost chestnut-rufous. (*Planesticus migratorius.*)
                i. Lateral rectrices with a white spot at tip of inner web.
                  j. Larger (wing averaging more than 134 in male, more than 128 in female); coloration darker and brighter. (Northern and eastern North America, breeding southward to New Jersey, Pennsylvania, Ohio, Iowa, etc., and in Allegheny Mts. to North Carolina.)....**Planesticus migratorius migratorius** (p. 97)
                  jj. Smaller (wing averaging about 125 in male, 122 in female); coloration paler and duller. (Southeastern United States, breeding from middle districts of North and South Carolina, Tennessee, etc., to Maryland and southern Illinois.)
                  Planesticus migratorius achrusterus (p. 100)
                ii. Lateral rectrices without white spot at tip of inner web. (Western North America and highlands of Mexico.)
                Planesticus migratorius propinquus (p. 101)
              hh. Head brownish gray, concolor with rest of upper parts; white superciliary stripe continuous; under wing-coverts, breast, etc., clear buff. (Southern extremity of Lower California.)
              Planesticus confinis (p. 103)

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[a] At least in the more northern species.

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gg. Orbital region without any white; back and wing-coverts decidedly browner than rest of upper parts.

h. Back, scapulars, and wing-coverts tawny-brown or russet; breast, sides, and flanks tawny-ochraceous, not distinctly, if at all, different from color of under wing-coverts. (Mexico.)

Planesticus flavirostris (p. 105)

hh. Back, scapulars, and wing-coverts light wood, brown or isabella color; breast pale broccoli brown or buff-gray, deepening into dull cinnamon on sides and flanks, both very different from the tawny-ochraceous of under wing-coverts. (Tres Marias Islands, western Mexico.).....**Planesticus graysoni** (p. 106)

ff. A white patch on lower throat.

g. Head chestnut-brown or vandyke brown, in strong contrast with olivaceous slate color of back. (Jamaica.).**Planesticus jamaicensis** (p. 107)

gg. Head buffy brown, olive, or dull slate color, concolor with back. (*Planesticus tristis*.)

h. Upper parts distinctly brown or olive.

i. Paler and browner.

j. Larger (wing averaging 127.5 in male, 124.4 in female); upper parts light olive or buffy olive-brown. (Western and southwestern portions of Mexican plateau.)

Planesticus tristis tristis (p. 108)

jj. Smaller (wing averaging 123.4 in male, 120.9 in female); upper parts deeper buffy olive or olive-brown. (Southeastern slope of Mexican plateau.).....**Planesticus tristis assimilis** (p. 109)

ii. Darker and more olivaceous. (Humid Pacific slope, from eastern Oaxaca to Chiriqui.).....**Planesticus tristis cnephosa** (p. 110)

hh. Upper parts dull slate color or dusky gray. (Central highlands, from northern Guatemala to Costa Rica.)

Planesticus tristis leucauchen (p. 111)

ee. Throat pale brown, or with only upper portion white, streaked with brown or grayish brown.

f. Orbital region more or less naked; upper parts grayish olive or light olive; ground color of chin and upper throat whitish; bill yellowish. (Islands of Grenada and St. Vincent, Lesser Antilles, and adjacent mainland.)

Planesticus gymnophthalmus (p. 113)

ff. Orbital region feathered; upper parts deep brown; ground color of chin and throat pale brown; bill blackish. (Costa Rica and Panama.)

Planesticus obsoletus (p. 114)

cc. Under tail-coverts brown medially, with darker shaft-streak, whitish laterally (in part). (Islands of St. Vincent and Grenada, Lesser Antilles.)

Planesticus nigrirostris (p. 115)

bb. Under tail-coverts without any white.

c. General color buffy brown or buffy olive (paler below), the under wing-coverts strongly buff, ochraceous-buff, or tawny-ochraceous.

d. Inner webs of remiges distinctly edged with buff or ochraceous-buff; under tail-coverts (exposed portion) clear buff (more or less deep). (*Planesticus grayi*.)

e. Larger (wing averaging more than 120 mm.); coloration more buffy brown, or else upper parts grayer.

f. Under parts paler, more buffy, less uniform; upper parts more buffy brown or buffy olive.

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g. Coloration deeper, more strongly buffy below, more brownish above. (Eastern Mexico, except arid coast plain, to Honduras.)

Planesticus grayi grayi (p. 117)

gg. Coloration paler, less strongly buffy below, grayer above. (Arid coast plain of eastern Mexico, from Tamaulipas to Yucatan.)

Planesticus grayi tamaulipensis (p. 119)

ff. Under parts deeper, more wood brown or cinnamomeous; upper parts more cinnamon-brown. (Southern Honduras to Panama.)

Planesticus grayi casius (p. 120)

ee. Smaller (wing averaging less than 115 mm.); coloration more olivaceous. (Santa Marta district of Colombia.)

Planesticus grayi luridus (extralimital).[a]

dd. Inner webs of remiges edged with pale broccoli brown; under tail-coverts pale wood brown or buffy brown; lores dusky, margined above by an indistinct streak of pale brownish. (Southeastern Mexico to Guatemala.)

Planesticus infuscatus, adult female (p. 121)

cc. General color grayish brown, sooty brown, or black.

d. Bill and feet dusky brown; upper parts olive or olive-brown, under parts light grayish brown or olivaceous broccoli brown.

e. Above dark olive or olive-sepia, beneath light hair brown, the throat distinctly streaked with darker brown. (Highlands of Costa Rica and Chiriqui.) ..... **Planesticus plebejus** (p. 122)

ee. Above brownish olive, beneath olivaceous broccoli brown, the throat not distinctly streaked but concolor with rest of under parts. (Highlands of Chiapas, southeastern Mexico.) ..... **Planesticus differens** (p. 123)

dd. Bill and feet yellowish; upper and under parts deep sooty brown or black.

e. Larger (wing 134.5–147.5, tail 107.5–123); color deep sooty brown, more blackish on wings and tail. (Highlands of Costa Rica and Panama.)

Planesticus nigrescens (p. 124)

ee. Smaller (wing 123.5–133, tail 94–102.5); color entirely black. (Southeastern Mexico to Guatemala.) ... **Planesticus infuscatus**, adult male (p. 121)

aa. Plumage spotted on under parts (usually streaked on upper.) (Young.)

b. A white or pale buff superciliary stripe; scapulars and interscapulars tipped with blackish. (*Planesticus migratorius*, young.)

c. Inner web of lateral rectrix tipped with a white spot.

d. Darker and brighter in color, with under parts more extensively (sometimes almost wholly) rufescent, the auricular region and pileum blackish.

Planesticus migratorius migratorius, young (p. 98)

dd. Paler and duller in color, with under parts mostly whitish, the auricular region and pileum dusky grayish.

Planesticus migratorius achrusterus, young (p. 100)

cc. Inner web of lateral rectrix without white terminal spot.

Planesticus migratorius propinquus, young (p. 101)

bb. No white or buffy superciliary stripe; scapulars and interscapulars without blackish tips.

c. Under parts partly white.

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[a] *Pl* [*anesticus*] *luridus* Bonaparte, Compt. Rend., xxxviii, no. 1, January, 1854, 4, footnote, in text (Colombia); Notes Orn. Coll. Delattre, 1854, 28, footnote, in text.—*Turdus luridus* Salvin, Proc. Zool. Soc. Lond., 1867, 132 (Santa Marta).—*T*[*urdus*] *grayi luridus* Hellmayr, Journ. für Orn., January, 1902, 50, 52 (crit.).—*Merula incompta* Bangs, Proc. Biol. Soc. Wash., xii, June 3, 1898, 114 (Santa Marta, Colombia; coll. E. A. and O. Bangs).

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d. Chest, sides, and flanks buffy, transversely spotted with dark sooty brown or blackish; interscapulars with distinct shaft-streaks of buff. (*Planesticus tristis*, young.)

e. Upper parts light buffy olive, the remiges and tail light olive.
Planesticus tristis tristis, young (p. 108)

ee. Upper parts dark sooty olive, the remiges and tail sooty blackish.
Planesticus tristis leucauchen, young (p. 111)

dd. Chest, sides, and flanks nearly uniform buffy brown; interscapulars without distinct shaft-streaks.....**Planesticus obsoletus**, young (p. 115)

cc. Under parts without white.

d. Remiges and rectrices brown; under parts not heavily spotted.

e. Under parts ochraceous-buff, the breast, etc., transversely spotted with grayish brown or olive; upper parts light olive-brown.
Planesticus grayi grayi, young (p. 117)

ee. Under parts olive-tawny, the breast, etc., transversely spotted with black; upper parts dark olive-brown..**Planesticus infuscatus**, young male (p. 122)

dd. Remiges and rectrices sooty black; under parts heavily spotted with sooty black.....**Planesticus nigrescens**, young (p. 124)

PLANESTICUS RUFITORQUES (Hartlaub).

RUFOUS-COLLARED THRUSH.

Adult male.—Upper parts uniform black,[a] interrupted by a broad collar of cinnamon-rufous or chestnut-rufous across hindneck; chin, more or less extensively, whitish; upper throat streaked with black and dull cinnamon-rufous (occasionally with some whitish), rarely uniform black or blackish; lower throat, chest, and breast, uniform cinnamon-rufous or rufous-tawny; sides, flanks, abdomen, and under tail-coverts uniform black, sometimes (in younger individuals?) dull grayish black with broad grayish margins to feathers; under tail-coverts blackish or dusky gray with more or less distinct (sometimes broad and conspicuous) mesial streaks of white or whitish; bill yellowish (bright yellow in life), more or less extensively dusky at tip; legs and feet dull yellowish in dried skins (yellow in life?); length (skins), 230–245 (236); wing, 130–139 (135); tail, 99–106.5 (103.1); exposed culmen, 20–21 (20.3); tarsus, 31–33 (32.1); middle toe, 21–23 (22).[b]

Adult female.—Much duller and lighter in color than the adult male. Upper parts grayish brown, the feathers of back, rump, etc., margined with gray, the pileum more decidedly brown and with indistinct darker shaft-streaks; hindneck more rufescent or fulvescent brown, forming a very indistinct collar; chin and throat dull white, pale fulvous-gray or dull cinnamon, more or less distinctly streaked with dusky; chest and breast plain dull buffy cinnamon or dull tawny; sides, flanks, and abdomen buffy grayish, the under tail-

[a] Some (but by no means all) winter specimens show more or less distinct brown margins to feathers of the pileum, and rather distinct slaty margins to feathers of the rump and upper tail-coverts; possibly these are younger birds.

[b] Ten specimens.

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coverts similar with mesial streaks of white; length (skins), 220–248 (229); wing, 121.5–134.5 (128); tail, 88–105.5 (95.9); exposed culmen, 19–21 (20.4); tarsus, 30.5–33.5 (31.9); middle toe, 21–23.5 (22).[a]

Highlands of Guatemala (Godines; Dueñas; Calderas; Volcan de Fuego; Volcan de Santa Maria; Quezaltenango; Jacaltenango; Cordillera above Totonicapam; Chilasco; Tactic; Hacienda Chancol) and Chiapas (San Cristobal; Comitan; Pinabete).

Turdus (*Merula*) *rufitorques* HARTLAUB, Rev. Zool., 1844, 214 (Guatemala).

T[*urdus*] *rufitorques* GRAY, Gen. Birds, i, 1847, 219.

Turdus rufitorques DU BUS, Esquiss. Orn., 1848, pls. 19, 20 (Godines, Guatemala).—BONAPARTE, Consp. Av., i, 1850, 275.—SCLATER and SALVIN, Ibis, 1859, 6 (evergreen oak forests of centr. Guatemala, 7,000 ft. alt.).—SALVIN and SCLATER, Ibis, 1860, 29 (Dueñas, Guatemala).—SCLATER, Proc. Zool. Soc. Lond., 1859, 334 (monogr.).—BAIRD, Review Am. Birds, 1864, 32 (Dueñas).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 22 (Calderas, Volcan de Fuego, Quezaltenango, Cordillera above Totonicapam, Chilasco, Tactic, etc., Guatemala).

[*Turdus*] *rufitorques* GRAY, Hand-list, i, 1869, 258, no. 3766.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—SHARPE, Hand-list, iv, 1903, 140.

Merula rufitorques SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 255.

PLANESTICUS MIGRATORIUS MIGRATORIUS (Linnæus).

AMERICAN ROBIN.

Adult male in spring and summer.—Head black, relieved by a small white spot or streak over posterior margin of lores, a larger white mark on posterior half of upper eyelid, and a large white mark or blunt crescent on lower eyelid; chin white; throat streaked with white and black, in variable relative proportion; feathers of neck black centrally, margined with brownish slate-gray or mouse gray; back, scapulars, lesser wing-coverts, rump, and upper tail-coverts plain deep mouse gray or brownish slate-gray, the interscapulars often with a central spot of blackish, or black margined with grayish; larger wing-coverts and tertials darker, becoming paler mouse gray on edges; alula, primary coverts, and remiges (except tertials) dark brownish slate, or dusky, edged with pale gray (nearly white on longer primaries); tail dull slate-black or sooty black, with narrow grayish edgings, the inner webs of lateral rectrices tipped with white, broadest on outermost rectrix, on which forming a large and conspicuous spot; chest, breast, upper abdomen, sides, flanks, axillars, and under wing-coverts plain deep cinnamon-rufous;[b] lower abdomen, anal region, and under tail-coverts, white, the latter with concealed portion mainly gray; bill yellow, with terminal portion of culmen dusky; iris deep brown; legs and feet dark horn color or blackish brown.

[a] Six specimens.

[b] In earlier spring specimens the feathers retain more or less of the white terminal margins of the winter plumage.

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Adult male in autumn and winter.—Similar to the spring and summer plumage, but gray of upper parts tinged with olive, cinnamon-rufous feathers of under parts margined terminally with white, maxilla horn color with blackish culmen, and mandible dusky terminally.

Adult female.—Similar to the male, but (at least usually) much duller in color, with gray of upper parts lighter and browner and encroaching more on head, the blackish feathers of which are more or less conspicuously margined with grayish; cinnamon-rufous of under parts paler (sometimes almost tawny-ochraceous), with white margins to feather persistent in summer (in part at least).

Young.—Head as in adults, but the black duller and white orbital markings less sharply defined, sometimes buffy; back and scapulars grayish brown or olive, the feathers with central or mesial spots or streaks of white or pale buff and blackish tips; rump and upper tail-coverts brownish gray or grayish brown, the feathers sometimes narrowly tipped with blackish; wings and tail as in adults, but wing-coverts with terminal wedge-shaped spots or streaks of pale rusty, buff, or whitish; chin and throat white or pale buffy, margined laterally with a stripe of blackish or line of blackish streaks; under parts cinnamon-rufous, ochraceous-tawny, or buffy ochraceous (sometimes the chest and breast much paler, occasionally whitish), conspicuously spotted with black, the lower abdomen white or pale buffy.

Adult male.—Length (skins), 218–248 (232); wing, 129.5–139.5 (134.3); tail, 96.5–106.5 (101.4); exposed culmen, 18.5–21(19.9); tarsus, 32–34.5 (33.1); middle toe, 20–23.5 (21.9).[a]

Adult female.—Length (skins), 215–223 (220); wing, 126–130.5 (128.2); tail, 93–96.5 (94.7); exposed culmen, 19–21 (20); tarsus, 32.5–34.5 (32.7); middle toe, 20.5–23 (21.5).[b]

[a] Eighteen specimens.

[b] Four specimens.

Alaskan specimens compare in average measurements with those from Labrador, etc., as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Ungava (3), Labrador (3), Ontario (Moose Factory, 1), Minnesota (1), New York (1), and Rhode Island (1)	134.3	102.2	20.1	33.1	21.9
Eight adult males from Alaska	134.2	100.4	19.6	33.4	21.9
FEMALES.					
Two adult females from Ungava and Labrador	127.2	94.7	20.5	32	21
Two adult females from Alaska	129.2	94.7	19.5	33.5	22

There seems to be no difference in coloration.

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Eastern and northern North America; breeding from the southern Alleghenies (in western North Carolina, etc.), Pennsylvania, New Jersey, the New England States, Ohio, central and northern Indiana and Illinois, Iowa, etc., northward to the limit of tree growth in Ungava (Fort Chimo) and northwestward to valley of Kowak River in northwestern Alaska; westward nearly to the Rocky Mountains (to the Pacific coast at Cook Inlet, Alaska); in winter southward to southern Florida and along the Gulf coast to Texas (westward to Tom Green and Concho counties); accidental or occasional in the Bermudas and Cuba; accidental in Europe (as escapes from captivity?).

[*Turdus*] *migratorius* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 292 (based on *Turdus pilaris migratorius* Catesby, Carolina, i, 29, pl. 29; *Turdus canadensis* Brisson, Orn., ii, 225).—GMELIN, Syst. Nat., i, 1788, 811.—LATHAM, Index Orn., i, 1790, 330.—COUES, Key N. Am. Birds, 1872, 71, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part (Cuba).—SHARPE, Hand-list, iv, 1903, 141.

Turdus migratorius VIEILLOT, Ois. Am. Sept., ii, 1807, 5, pls. 60, 61.—WILSON, Am. Orn., i, 1808, 35, pl. 2, fig. 2.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 25; Ann. Lyc. N. Y., ii, 1826, 75; Geog. and Comp. List, 1838, 17; Consp. Av., i, 1850, 272.—LESSON, Traité d'Orn., 1831, 408.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 338.—AUDUBON, Orn. Biog., ii, 1834, 190; v, 1839, 442, pl. 131; Synopsis, 1839, 89; Birds Am., oct. ed., iii, 1841, 14, pl. 142.—TEMMINCK, Man. d'Orn., iii, 1835, 91.—JARDINE, Contr. Orn., 1850, 67 (Bermudas, occasional).—MAXIMILIAN, Journ. für Orn., 1858, 178.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 218, part; Cat. N. Am. Birds, 1859, no. 155, part; Review Am. Birds, 1864, 28, part.—MARTENS, Journ. für Orn., 1859, 213 (Bermuda).—GUNDLACH, Journ. für Orn., 1862, 181 (Cuba).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 276 (Nulato, Fort Yukon, etc., Alaska; habits).—COUES, Check List, 1873, no. 1, part; 2d ed., 1882, no. 1; Birds Northwest, 1874, 1, part (in synonymy); Birds Col. Val., 1878, 8, part; in Elliott's Affairs in Alaska, 1875, 172 (Pribilof Islands, casual in October); Bull. Nutt. Orn. Club, iii, 1878, 47 (descr. melanistic specimen).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 2, fig. 3; special ed., 1875 (?), pl. facing p. 25.—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 33 (wintering in lower Hudson Valley, New York).—LOCKWOOD, Bull. Nutt. Orn. Club, v, 1880, 46 (notice of a melanistic specimen).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 220, part.—BICKNELL, Auk, i, 1884, 126 (song period).

Turdus migratorius FORSTER, Philos. Trans., lxii, 1772, 399 (Albany Fort and Severn R., Hudson Bay).

T[*urdus*] *migratorius* CABANIS, Mus. Hein., i, 1850, 4.—COUES, Key N. Am. Birds, 2d ed., 1884, 244.

Turdus migratorius, var. *migratorius* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 25, part.

Turdus migratorius migratorius GOODE, Bull. U. S. Nat. Mus., no. 20, 1883, 348.

Turdus megratorius BODDAERT, Tabl. Pl. Enl., 1873, 32.

Merula migratoria (not of Swainson, 1827) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 176.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 166; Nom. N. Am. Birds, 1881, no. 7; Orn. Illinois, i, 1889, 65.—MCLENEGAN, Cruise "Corwin," 1884, 113 (Kowak R., and Hotham Inlet, Alaska, breeding).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 235 (Fort Chimo, Ungava, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 761.—CORY, Auk, iii, 1886, 3 (accidental in Cuba); Birds West Ind., 1889, 17 (do.).—BREWSTER,

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Auk, iii, 1886, 178 (mountains w. North Carolina, breeding between 4,000 to 5,800 ft.; crit.).—TOWNSEND, Auk, iv, 1887, 13 (Kowak R., Alaska, common).—LLOYD, Auk, iv, 1887, 298 (Tom Green and Concho counties, w. Texas, migrant).—COOKE, Bird Migr. Miss. Val., 1888, 287–292.—COMEAU, Auk, viii, 1891, 317 (Godbout, Quebec, Nov., Dec.).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 445 (Fort Anderson; Swan and Wilmot Horton rivers; breeding).—NEHRLING, Our Native Birds, etc., i, 1893, 28, pl. 1, fig. 1.—GUNDLACH, Orn. Cubana, 1893, 48.—HOWE, Auk, xv, 1898, 162–167 (breeding habits in Massachusetts).—PALMER (W.), Avifauna Pribilof Islands, 1899, 420 (accidental).—OSGOOD, North Am. Fauna, no. 21, 1901, 81 (Hope and Sunrise, Cook Inlet, Alaska).—BIGELOW, Auk, xix, 1902, 31 (Port Manvers, Labrador, large flocks, Sept. 16).—MCGREGOR, Condor, iv, 1902, 144 (Castle Rock, Alaska).—KNIGHT, Bull. Univ. Wyom. Agric. Ex. Sta., no. 55, 1902, 157 (summer res. e. of Laramie Mts.).—SCHALOW, Vögel der Arktis, 1904, 268 (Godthaab and Sukkertoppen, Greenland).—OSGOOD, North Am. Fauna, no. 24, 1904, 81 (Iliamna, Swan Lake, etc., Alaska.)

[*Merula*] *migratoria* CORY, List Birds W. I., 1885, 5.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 249.

M[*erula*] *migratoria* RIDGWAY, Man. N. Am. Birds, 1887, 577.

Turdus (*Planesticus*) *migratorius* BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 218, part.

Planesticus migratorius GUNDLACH, Journ. für Orn., 1871, 293 (Cuba); 1872, 405 (Cuba).

[*Planesticus*] *migratorius* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4.

Turdus canadensis MÜLLER, Syst. Nat. Suppl., 1776, 140 (ex Brisson, Orn., ii, 225, no. 9).

PLANESTICUS MIGRATORIUS ACHRUSTERUS (Batchelder).

CAROLINIAN ROBIN.

Similar to *P. m. migratorius* but smaller, with coloration paler and duller. Adult male with black of head broken by more or less broad grayish margins to feathers; gray of back duller and browner, rarely, if ever, with blackish centers to feathers; color of breast, etc., tawny-ochraceous to tawny cinnamon-rufous. Adult female with grayish margins to feathers of head broader, sometimes nearly concealing the central dusky areas, and color of breast, etc., yellowish ochraceous-buff to tawny-ochraceous. Young paler in color than that of *P. m. migratorius*, with under parts largely (sometimes mostly) whitish and less heavily spotted.

Adult male.—Length (skins), 189–198 (194); wing, 119–124 (121.8); tail, 87.5–90 (89.2); exposed culmen, 18.5–20.5 (19.5); tarsus, 31–31.5 (31.3); middle toe, 19.5–21 (20.2).[a]

Adult female.—Length (skins), 188.5–233 (210); wing, 117.5–126.5 (121.9); tail, 87.5–90.5 (89.2); exposed culmen, 18.5–20.5 (19.1); tarsus, 29.5–32.5 (31.3); middle toe, 19–21.5 (20.2).[b]

[a] Three specimens, with remiges and rectrices considerably worn.

[b] Eleven specimens. (The extremes in length of wing and tail represented by breeding specimens from the type locality.)

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Southern portion of Carolinian fauna, breeding from South Carolina (Chester County), North Carolina (Raleigh), Tennessee (Rockwood), and northern Mississippi to Maryland (Laurel, Jefferson) and southern Illinois (north to Richland County, etc.).

Turdus migratorius (not of Linnæus) LOOMIS, Bull. Nutt. Orn. Club, iv, 1879, 210. (Chester Co., South Carolina, rare in summer.)

Merula migratoria STOCKARD, Auk, xxii, 1905, 284 (n. Mississippi, breeding).

Merula migratoria achrustera BATCHELDER, Proc. New Engl. Zool. Club, i, Mar. 6, 1900, 104 (Raleigh, North Carolina; coll. C. F. Batchelder).—ALLEN, Auk, xviii, 1901, 178 (reprint of orig. descr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xviii, 1901, 309 (check list no. 761*b*).

[*Turdus*] *achrusterus* SHARPE, Hand-list, iv, 1903, 141.

PLANESTICUS MIGRATORIUS PROPINQUUS (Ridgway).

WESTERN ROBIN.

Similar to *P. m. migratorius*, but inner web of lateral rectrices without white tip (or with this very much reduced in extent); gray of upper parts slightly paler and more olivaceous, more abruptly defined against black of head; cinnamon-rufous of under parts averaging slightly paler; wings, tail, and tarsi averaging decidedly longer (except in resident specimens in southern Mexico).

Adult male.—Length (skins), 224–258 (241); wing, 132.5–145 (139.8); tail, 97.5–111.5 (104.8); exposed culmen, 19–21.5 (20.3); tarsus, 32.5–35.5 (34.1); middle toe, 20.5–24 (22.2).[a]

Adult female.—Length (skins), 225–244 (237); wing, 127.5–142 (132.9); tail, 95–106 (99.6); exposed culmen, 18.5–21.5 (20.1); tarsus, 30–34 (33.1); middle toe, 20–23 (21.6).[b]

Western North America, from Rocky Mountains (including Laramie Mountains, Wyoming) to the Pacific coast; north to (or near) limit of coast forest district of Alaska (including islands); south to

[a] Eleven specimens, from western United States and British Columbia.

[b] Eight specimens, from western United States.

Mexican specimens compare with more northern examples in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eleven adult males from western United States and British Columbia	139.8	104.8	20.3	34.1	22.2
Four adult males from northern and central Mexico	141.7	104	20.6	32.9	21.6
Eleven adult males (residents) from southern Mexico	134.5	98.5	20.6	31.1	20.7
FEMALES.					
Eight adult females from western United States	132.9	99.6	20.1	33.1	21.6
Eight adult females from northern and central Mexico	135.4	97.3	20.2	32.5	20.9

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southern end of Mexican plateau, occasionally to highlands of Guatemala (Coban); breeding southward over highlands of Mexico to States of Vera Cruz (Cordova, Las Vigas, Orizaba, Mirador), Oaxaca (Mount Zempoaltepec), Guerrero (Omilteme), Puebla (Mount Orizaba), Mexico (Mount Popocatapetl; Valley of Mexico), and Jalisco, and Territory of Tepic (Santa Teresa), and along coast of California to mountains of Los Angeles County.

Turdus migratorius (not of Linnæus) BONAPARTE, Proc. Zool. Soc. Lond., 1837, 111 (Mexico).—VIGORS Zool. Beechey's Voy., 1839, 17 (Monterey, California).—TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 153 (Columbia R.).—GAMBEL, Proc. Ac. Nat. Sci. Phila., iii, 1846, 113 (California).—WOODHOUSE, Rep. Sitgreaves' Expl. Zuñi and Colorado R., 1853, 72, part (San Francisco Mt., Arizona).—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 310 (New Mexico).—NEWBERRY, Rep. Pacific R. R. Surv., vi, 1857, 81 (California).—CASSIN, Rep. U. S. Expl. Exp., Orn., 1859, 157 (California).—SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Rotosinapam, Mexico); 1858, 300 (La Parada, Oaxaca); 1859, 235 (Vancouver I.), 331, part (monogr.); 1864, 172 (near City of Mexico); Cat. Am. Birds, 1862, 4, part (Cordova, Vera Cruz).—XANTUS, Proc. Ac. Nat. Sci. Phila., 1859, 190 (Fort Tejon, California).—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 190.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. 2, 1860, 172 (Washington.)—SALVIN and SCLATER, Ibis, 1860, 396 (Coban, Guatemala).—BAIRD, Cat. N. Am. Birds, 1859, no. 155, part; Rep. Ives' Exp. Colorado R., 1861, 5; Review Am. Birds, 1864, 28, part.—BROWN, Ibis, 1868, 420 (Vancouver I.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (alpine region Vera Cruz).—COOPER, Orn. Cal., 1870, 7.—STEVENSON, Prelim. Rep. U. S. Geol. Surv. for 1870 (1871), 463 (Fort Bridger, etc., Wyoming).—MERRIAM, Rep. U. S. Geol. Surv. for 1872 (1873), 712 (Teton Basin, etc., Idaho).—RIDGWAY, Bull. Essex Inst., v, 1873, 179 (Colorado); Orn. 40th Parallel, 1877, 391 (Nevada and Utah).—COUES, Birds Northwest, 1874, 1 (excl. syn. part); Birds Col. Val., 1878, 8 (do.).—TRIPPE, in Coues' Birds Northwest, 1874, 228 (Colorado; habits, etc.).—YARROW and HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 5 (Utah).—HENSHAW, Orn. Rep. Wheeler's Surv., 1874, 39 (Utah), 56 (Fort Garland, Colorado), 70 (South Park, Colorado), 96 (Fort Wingate, New Mexico), 154 (Arizona); 1876, 226 (s. California); Zool. Exp. W. 100th Merid., 1875, 143 (localities in Utah, Colorado, New Mexico, and Arizona).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 220, part.—HARTLAUB, Journ. für Orn., 1883, 268 (Portage Bay, Alaska).—SCHALOW, Journ. für Orn., 1891, 252 (Sitka).

[*Turdus*] *migratorius* COUES, Key N. Am. Birds, 1872, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part (Mexico; Guatemala).

Merula migratoria SWAINSON, Philos. Mag., i, 1827, 368 (s. Mexico).

Turdus (*Planesticus*) *migratorius* BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 218, part.—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 64 (Fort Whipple, Arizona).—MERRIAM, Rep. U. S. Geol. Surv. for 1872 (1873), 670 (Ogden, Utah; Teton Cañon, Idaho; Snake R., Wyoming).

Planesticus migratorius HENRY, Proc. Ac. Nat. Sci. Phila., 1859, 106 (New Mexico).—COUES, Ibis, 1865, 159, in text (Raton Mts., New Mexico).—MERRIAM, Rep. U. S. Geol. Surv. for 1872 (1873), 713 (Utah).

Turdus migratorius, var. *migratorius* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 25, part.

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T[urdus] propinquus RIDGWAY, Bull. Nutt. Orn. Club, ii, Jan., 1877, 9 (type from Laramie Peak, Wyoming; coll. U. S. Nat. Mus.).

[*Turdus*] *propinquus* SHARPE, Hand-list, iv, 1903, 141.

Turdus migratorius propinquus MEARNS, Bull. Nutt. Orn. Club, iv, July, 1879, 163 (Fort Klamath, Oregon).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 89.—DREW, Bull. Nutt. Orn. Club, vi, 1881, 85 (San Juan Co., Colorado).—COUES, Check List, 2d ed., 1882, no. 2.—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 152 (Colorado Springs, Colorado, breeding; crit.).

T[urdus] m[igratorius] propinquus? COUES, Key N. Am. Birds, 2d ed., 1884, 244.

Turdus migratorius, β. propinquus RIDGWAY, Field and Forest, ii, May, 1877, 77, 195 (Colorado).—BELDING and RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 395 (centr. California).

Merula migratoria propinqua RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166, 214; Nom. N. Am. Birds, 1881, no. 7*a*.—BROWN (N. C.), Bull. Nutt. Orn. Club, vii, 1882, 34 (Kendall Co., Texas).—GOSS, Auk, i, 1884, 100 (Wallace, w. Kansas, flock, Oct. 12–16, 1883).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 761*a*.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 132 (Teziutlan, Puebla).—BRYANT (W. E.), Bull. Cal. Ac. Sci., ii, 1887, 317 (Guadalupe I., casual, Jan.).—LLOYD, Auk, iv, 1887, 298 (Concho Co., w. Texas, rare in autumn; Tom Green Co., a few in winter).—SCOTT, Auk, v, 1888, 167 (Santa Catalina Mts., Arizona, spring and fall).—COOKE, Bird Migr. Miss. Val., 1888, 292 (w. Kansas, straggler; San Angelo, s. w. Texas, 1 flock, winter).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 695 (Corpus Christi, Texas, 2 specs., Mar.).—MEARNS, Auk, vii, 1890, 264 (Mogollon Mts., Arizona, breeding in pine zone).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 38 (Las Vigas, Vera Cruz, 8,000 ft., breeding).—GRINNELL (J.), Auk, xv, 1898, 130 (Sitka, Alaska, breeding).—MITCHELL, Auk, xv, 1898, 311 (San Miguel Co., New Mexico, breeding up to 10,000 ft.).—OSGOOD, N. Am. Fauna, no. 21, 1901, 50 (Queen Charlotte Islands).—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 215 (San José del Rancho, Lower California, Dec. 22, crit.).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 65 (Huachuca Mts.; Arizona, resident).

M[erula] migratoria propinqua RIDGWAY, Man. N. Am. Birds, 1887, 577.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 250.

PLANESTICUS CONFINIS (Baird).

SAN LUCAS ROBIN.

Somewhat similar to paler colored specimens of *P. migratorius propinquus*, but much paler, the head never blackish; white superciliary stripe broad and continuous, and color of breast, etc., never darker than buff.

Adult male.—Above, including pileum, plain smoke gray, or between smoke gray and mouse gray; greater wing-coverts, remiges, and rectrices darker gray (deep brownish mouse gray) with pale gray edgings; lateral rectrices edged at tip with white (worn away in midsummer plumage); a narrow superciliary stripe of white, sometimes indistinct or obscured by grayish anteriorly; lores dusky gray; a broad crescentic patch of white immediately beneath eye; rest of side of head and side of neck plain brownish gray, like upper parts, the malar region usually indistinctly streaked with white or dusky

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(or both); chin immaculate white; throat white, rather broadly streaked with white and dusky; chest, breast, upper abdomen, sides, flanks, axillars, and under wing-coverts, clear deep buff (the feathers in winter plumage margined terminally with white; lower abdomen and anal region white; under tail-coverts white terminally, most of the concealed (and part of exposed) portion brownish gray; bill yellow, with terminal portion of culmen dusky (this more extensive in winter, when the whole maxilla is more or less tinged with brownish; iris brown; legs and feet horn brownish (in dried skins); length (skins), 222–255 (232); wing, 133–140.5 (137.2); tail, 101–108 (104.9); exposed culmen, 20–24 (22); tarsus, 30–33 (31.7); middle toe, 19.5–22.5 (21.2).

Adult female.—Similar to the adult male, but buff of under parts paler, that of the chest more or less obscured by pale brownish gray tips to the feathers, the flanks also more or less strongly washed with pale brownish gray; white of abdomen more extended, sometimes involving nearly whole of breast; bill less yellow, the maxilla light yellowish horn color, dusky on terminal portion of culmen; streaks on throat grayer, usually narrower; length (skins), 213–250 (230); wing, 124–136.5 (131.1); tail, 96.5–103 (99.1); exposed culmen, 21–23.5 (22.5); tarsus, 30–32.5 (31.5); middle toe, 19.5–23 (21.3).[a]

Southern extremity of Lower California (Todos Santos; San José del Cabo; Sierra de la Laguna; Mount Miraflores; Victoria Mountains); accidental at Haywards, Alameda County, California (one specimen, January 2, 1888).

Turdus confinis BAIRD, Review Am. Birds, July, 1864, 29 (Todos Santos, near Cape St. Lucus, Lower California; coll. U. S. Nat. Mus.).—ELLIOT, New and Unfig. Birds N. Am., 1869, 3, pl.—COOPER, Orn. Cal., 1870, 9.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 2, fig. 1—SEEBOHM, Cat. Birds, Brit. Mus., v. 1881, 222.

[*Turdus*] *confinis* GRAY, Hand-list, i, 1869, 258, no. 3756.—SHARPE, Hand-list, iv, 1903, 141.

T[*urdus*] *confinis* COUES, Key N. Am. Birds, 2d ed., 1884, 244.

[*Turdus migratorius.*] Var. *confinis* COUES, Key N. Am. Birds, 1872, 72.

Turdus migratorius . . . var. *confinis* COUES, Check List, 1873, no. 1*a*.

Turdus migratorius, var. *confinis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 27.

Turdus migratorius confinis COUES, Check List, 2d ed., 1882, no. 3.

Merula confinis RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166, 214; Nom. N. Am. Birds, 1881, no. 8; vi, 1883, 158 (Laguna, Lower California; descriptions; crit.), 346 (crit.), 533, footnote (Todos Santos).—BELDING, Proc. U. S. Nat. Mus., vi, 1883, 346 (Laguna, Lower California, above 2,500 ft.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 762.—EMERSON, Zoe, i, 1890, 46 (Haywards, Alameda Co., California, 1 spec., Jan. 2, 1888).—BRYANT (W. E.), Proc. Cal. Ac. Sci., 2d ser., ii, 1889, 319 (Todos Santos; Victoria Mts.); Zoe, ii, 1891, 198 (Victoria Mts.).—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 74.—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 216 (Sierra de la Laguna; habits; song).

[a] Ten specimens.

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M[erula] confinis RIDGWAY, Man. N. Am. Birds, 1887, 578.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 250.

Turdus migratorius (not of Linnæus) COUES, Birds Northwest, 1874, 1, part (in synonymy).

Turdus (Planesticus) migratorius COUES, Birds Col. Val., 1878, 8, part (in synonymy)

PLANESTICUS FLAVIROSTRIS (Swainson).

MAZATLAN ROBIN.

Adult male.—Head and neck (except lores, chin, and throat) brownish gray, the forehead and crown more or less strongly washed with brown (especially in winter plumage) and the feathers with darker shaft-streaks; lores dusky or grayish black; feathers of auricular region with very narrow whitish shaft-streaks; back, scapulars, and wing-coverts plain cinnamon-brown or russet; rump, uppe rtail-coverts and secondaries plain slate-gray, the latter tinged with olive; primaries and rectrices dusky slate-gray or dull slate color, with pale slate-gray edgings; malar region streaked white, grayish, and dusky; chin and throat white sharply streaked with slate-blackish, the upper chest similarly streaked on a grayish or dull tawny ground; chest, breast, sides, flanks, axillars, and under wing-coverts plain tawny-ochraceous; abdomen, hinder flanks, anal region, and under tail-coverts immaculate white, the last with basal (concealed) portion partly gray; bill yellow, sometimes brownish or dusky at tip; iris brown; legs and feet pale yellowish brown (in dried skins); length (skins), 217–250 (232); wing, 119–133.5 (126.1); tail, 92.5–105.5 (100.6); exposed culmen, 19–22.5 (20.5); tarsus, 30.5–34 (31.9); middle toe, 19–22 (20.7).[a]

Adult female.—Very similar to the adult male and often not distinguishable, but usually (?) very slightly duller in color; length (skins), 223–235 (228); wing, 116.5–128.5 (122); tail, 91–106 (98.1); exposed culmen, 19–22.5 (20.7); tarsus, 30.5–32 (31.4); middle toe, 19.5–22 (20.4).[b]

Western and southwestern Mexico, in States of Sinaloa (Mazatlan), Jalisco, Colima (Manzanillo; Plains of Colima), Michoacan (Ahuacana), Mexico (Temascaltepec), Durango (Chacala), Guerrero (Acapulco; Egido Nuevo), Oaxaca (Tehuantepec; San Juan del Rio), and Puebla (Chietla; Chiantla; Piaxtla).

Merula flavirostris (not *Turdus flavirostris* Horsfield, 1821)[c] SWAINSON, Philos. Mag., n. s., i, 1827, 369 (Temascaltepec, Mexico).—FERRARI-PEREZ, Proc., U. S. Nat. Mus., ix, 1886, 132 (Chietla and Chiantla, Puebla).

M[erula] flavirostris RIDGWAY, Man. N. Am. Birds, 1887, 578.

T[urdus] flavirostris GRAY, Gen. Birds, i, 1847, 220.

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[a] Ten specimens.

[b] Eight specimens.

[c] *Turdus flavirostris* Horsfield, Trans. Linn. Soc. Lond., ser. i, xiii, pt. i, May, 1821, 149 (Java).

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Turdus flavirostris SCLATER, Proc. Zool. Soc. Lond., 1859, 332 (monogr.; w. Mexico; "Lower California;" "Monterey").—BAIRD, Review Am. Birds, 1864, 31 (Colima; Tehuantepec).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 550 (San Juan del Rio, Oaxaca).—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 276, part (Mazatlan; Bendaras Bay).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 266, part (Mazatlan; Plains of Colima); Bull. U. S. Nat. Mus., no. 4, 1876, 11 (Tehuantepec City, Nov.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 21, part, pl. 3, fig. 1 (excl. loc. Tres Marias).—SEEBOHM, Cat. Birds Brit. Mus., v., 1881, 225, part (excl. loc. Tres Marias).—SALVIN, Proc. Zool. Soc. Lond., 1883, 419 (Acapulco, Guerrero).

[*Turdus*] *flavirostris* GRAY, Hand-list, i, 1869, 257, no. 3748.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—SHARPE, Hand-list, iv, 1903, 121.

[*Planesticus*] *flavirostris* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4.

Turdus rufo-palliatus LAFRESNAYE, Rev. Zool., 1840, 259 ("Monterey, California;" type now in coll. Bost. Soc. Nat. Hist.).

T[*urdus*] *rufo-palliatus* GRAY, Gen. Birds, i, 1847, 219.

Turdus palliatus BONAPARTE, Consp. Av., i, 1850, 272 (Mexico).

PLANESTICUS GRAYSONI (Ridgway).

TRES MARIAS ROBIN.

Similar to *P. flavirostris*, but very much paler and duller in color and with larger bill and longer tarsi.

Adult male.—Head and neck (except malar region, chin, and throat) dull brownish gray, the forehead and crown slightly browner, or tinged with brown; lores dusky; feathers of auricular region with very narrow shaft-streak of whitish; back and scapulars light olivaceous wood brown to hair brown, not conspicuously different from color of hindneck, the wing-coverts similar, but brighter (more cinnamomeous wood brown); rump, upper tail-coverts, and remiges smoke gray or mouse gray, the rump and secondaries faintly tinged with olive; tail darker gray with outer webs lighter gray (like upper tail-coverts); malar region, chin, and throat white, narrowly streaked with dusky, the upper chest similarly streaked on a buffy, grayish ground; chest and breast pale buffy gray, deepening on sides and flanks into buffy wood brown or clay color; axillars and under wing-coverts ochraceous-buff or orange-buff; abdomen, hinder flanks, anal region, and under tail-coverts white, the last with concealed basal portion partly light gray; bill yellowish, more or less extensively horn colored or dusky terminally; iris brown; legs and feet light yellowish brown (in dried skins); length (skins), 242–245 (243); wing, 121.5–130 (126.2); tail, 96–102.5 (99.4); exposed culmen, 22–23 (22.6); tarsus, 33–35 (34); middle toe, 20.5–21.5 (21.1).[a]

Adult female.—Very similar to the adult male and often not distinguishable, but usually (?) very slightly duller in color; length (skins), 235–245 (240); wing, 121–127.5 (124.1); tail, 95.5–102

[a] Four specimens.

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(98.7); exposed culmen, 22–22.5 (22.3); tarsus, 33.5–35 (34.3); middle toe, 19.5–21.5 (20.7).[a]

Tres Marias Islands, western Mexico.

Turdus flavirostris (not of Swainson) GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 276, part (Tres Marias); Nat. Hist. Tres Marias and Socorro, 1871, 17 (do.).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 266, part (Tres Marias).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 21, part (Tres Marias).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 225, part (Tres Marias).

[*Turdus*] *graysoni* SHARPE, Hand-list, iv, 1903, 122.

Merula flavirostris graysoni RIDGWAY, Proc. U. S. Nat. Mus., v, June 5, 1882, 12 (Tres Marias Islands, w. Mexico; coll. U. S. Nat. Mus.).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 433 (reprint of orig. descr.).

M[*erula*] *graysoni* RIDGWAY, Man. N. Am. Birds, 1887, 578.

Merula graysoni NELSON, N. Am. Fauna, no. 14, 1899, 60 (habits; song; crit.).

PLANESTICUS JAMAICENSIS (Gmelin).

WHITE-EYED THRUSH.

Adults (*sexes alike*).—Head, except chin and throat, uniform rich warm-sepia or vandyke brown, the neck more olivaceous brown; rest of upper parts plain slate color, the rectrices and concealed portion of remiges darker and duller; chin and throat (except laterally) white, streaked with rich brown; a broad band of immaculate white across lower throat; rest of under parts brownish gray or grayish brown (drab-gray to hair brown), fading into white on abdomen and anal region; under tail-coverts slate color or slate-gray with a mesial and terminal wedge-shaped mark of white; bill blackish, the basal portion of mandible sometimes yellow;[a] iris bluish white;[a] legs and feet dark horn color, the soles of toes yellowish.[b]

Adult male.—Length (skins), 192–220 (208); wing, 115–121 (118); tail, 83–91 (87.1); exposed culmen, 17–20 (18.7); tarsus, 34–35.5 (35.1); middle toe, 20–21.5 (20.8).[b]

Adult female.—Length (skins), 198–224 (212); wing, 112–121.5 (115.7); tail, 84–93 (87.9); exposed culmen, 17–19.5 (18.4); tarsus, 33.5–36 (34.8); middle toe, 20–21.5 (20.7).[c]

Island of Jamaica, Greater Antilles.

[*Turdus*] *jamaicensis* GMELIN, Sept. Nat., i, 1788, 809 (based on *Jamaica Thrush* Latham, Gen. Synop. Birds, ii, pt. 1, 20).—LATHAM, Index Orn., i, 1790, 328.—GRAY, Hand-list, i, 1869, 257, no. 3739.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.

Turdus jamaicensis VIEILLOT, Nouv. Dict. d'Hist. Nat., xx, 1818, 234.—BONAPARTE, Consp. Av., i, 1850, 271.—SCLATER, Proc. Zool. Soc. Lond., 1859, 327 (monogr.); 1861, 70; Cat. Am. Birds, 1862, 3.—GUNDLACH, Journ. für Orn., 1861, 404 (crit.).—ALBRECHT, Journ. für Orn., 1862, 192.—MARCH, Proc. Ac. Nat. Sci. Phila., 1863, 292.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 208.

T[*urdus*] *jamaicensis* GRAY, Gen. Birds, i, 1847, 219.—NEWTON (A. and E.), Handb. Jamaica, 1881, 105.

[a] Six specimens. [b] According to Gosse. [c] Seven specimens.

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Merula jamaicensis Gosse, Birds Jamaica, 1847, 142; Illustr. Birds Jam., 1849, pl. 24.—Denny, Proc. Zool. Soc. Lond., 1847, 38.—Cory, Auk, iii, 1886, 2 (synonymy); Birds West Ind., 1889, 16; Cat. W. I. Birds, 1892, 19, 122, 131.

[*Merula*] *jamaicensis* Cory, List Birds West Ind., 1885, 5.—Sharpe, Hand-list, iv, 1903, 122.

[*Planesticus*] *jamaicensis* Heine and Reichenow, Nom. Mus. Hein., 1890, 3.

Turdus capucinus Hartlaub, fide Bonaparte, Consp. Av., i, 1850, 271.

Turdus leucophthalma Hill, fide Bonaparte, Consp. Av., i, 1850, 271.

Turdus lereboulleti Bonaparte, Compt. Rend., xxxviii, 1854, 3; Notes Orn. Coll. Delattre, 1854, 27.

PLANESTICUS TRISTIS TRISTIS (Swainson).

MEXICAN THRUSH.

Adults (*sexes alike*).—Above plain bright, slightly buffy, olive (varying from clear olive to decidedly buffy olive, or between raw-umber and broccoli brown), the rectrices and terminal portion of primaries grayer (olivaceous hair brown); chin, throat, and extreme upper portion of chest white, buffy white, or pale buff, the throat broadly streaked with dusky, except lower portion, which, together with extreme upper part of chest, is immaculate, forming a conspicuous transverse patch of white or pale buff; chest, sides, and flanks plain light buffy grayish brown, pale wood brown, or pale isabella color, fading into white on abdomen and under tail-coverts, the latter without any concealed gray; axillars pale buff, tinged with color of sides; under wing-coverts (except those along edge of wing) clear buff; bill (in dried skins) horn color or dusky, the mandible paler and more yellowish, sometimes mostly yellowish; iris brown; legs and feet horn color (in dried skins).

Young.—Upper parts similar in color to those of adults, but feathers of pileum, back, and scapulars, with narrow shaft-streaks of buff, the lesser, middle, and greater wing-coverts with similar, but broader, more wedge-shaped, and more ochraceous markings (these less distinct on greater coverts); chin, patch on lower throat, abdomen, and lower tail-coverts plain white; middle throat and whole chest buff (paler on throat), spotted with dusky; sides and flanks deeper buff, the anterior portion of the former barred or transversely spotted with dusky.

Adult male.—Length (skins), 223–244 (233); wing, 122.5–133.5 (127.5); tail, 93–104 (101.2); exposed culmen, 19–23 (20.7); tarsus, 28.5–33.5 (31.4); middle toe, 19.5–23 (21.3).[a]

Adult female.—Length (skins), 215–238 (231); wing, 121–129.5 (124.4); tail, 92.5–101 (96.4); exposed culmen, 18.5–21.5 (20.5); tarsus, 30–33 (31.2); middle toe, 20–22 (20.7).[b]

[a] Fifteen specimens. [b] Eight specimens.

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Western and southwestern Mexico, in states of Sinaloa (Plomosas), Durango (Chacala), Jalisco (San Sebastian; Tonila; Barranca Ibarra), Michoacan (Los Reyes; Patamban; Mount Tancitaro), Mexico (Temascaltepec; City of Mexico), Morelos (Huitzilac), Guerrero (Omilteme), western Oaxaca (Pluma; Cerro San Felipe), and Territory of Tepic (Tepic).

Merula tristis SWAINSON, Philos. Mag., new ser., i, 1827, 369 (Temascaltepec, Mexico; coll. Bullock Mus.?).—JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 774 (Barranca Ibarra, Jalisco).

[*Merula*] *tristis* SHARPE, Hand-list, iv, 1903, 123, part.

[*Turdus*] *tristis* LICHTENSTEIN, Nomencl. Mus. Berol., 1854, 26.

Planesticus tristis BONAPARTE, Compt. Rend., xxxviii, 1854, 4; Notes Orn. Coll. Delattre, 1854, 27, footnote.

Turdus tristis SCLATER, Proc. Zool. Soc. Lond., 1859, 330, part (monogr.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 15, part (Temascaltepec, Mexico; Valley of Mexico).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 211, part (in synonymy).—SHARPE, Bull. Brit. Orn. Club, no. 1, 1898, p. xxvi (crit.); Ibis, 1898, 289 (do.).

Turdus assimilis (not of Cabanis) SCLATER, Proc. Zool. Soc. Lond., 1864, 172 (City of Mexico).

PLANESTICUS TRISTIS ASSIMILIS (Cabanis).

JALAPA THRUSH.

Similar to *P. t. tristis*, but smaller and darker in color; the upper parts distinctly deeper, less buffy, olive, the chest, sides, and flanks darker and less buffy (buffy broccoli brown, drab, or hair brown, rather than light wood brown or isabella color).

Adult male.—Length (skins), 218–223 (220); wing, 121–125 (123.4); tail, 97.5–100 (98.5); exposed culmen, 19–21 (20); tarsus, 30–31 (30.4); middle toe, 19.5–22 (20.4).[a]

Adult female.—Length (skins), 198–251 (223); wing, 115–127.5 (120.9); tail, 88–106 (94.2); exposed culmen, 19–21 (20.2); tarsus, 28.5–31.5 (30); middle toe, 20–21.5 (20.9).[b]

Eastern Mexico, in States of Vera Cruz (Jalapa; Vigia; Cordova; Orizaba; Meradin; Potrero) San Luis Potosi (Jilitla), and northern Oaxaca (Juquila; Teotalcingo).

T[*urdus*] *assimilis* CABANIS, Mus. Hein., i, 1850, 4 (Jalapa, Vera Cruz; coll. Heine Mus.).

Planesticus assimilis BONAPARTE, Compt. Rend., xxxviii, 1854, 4; Notes Orn. Coll. Delattre, 1854, 27, footnote.

Turdus assimilis SCLATER, Proc. Zool. Soc. Lond., 1857, 202 (Jalapa, Vigia, and Orizaba, Vera Cruz; crit.); 1859, 327, 362 (Vera Cruz; Jalapa; Orizaba; Oaxaca?; Puente National), 370 (Juquila and Teotalcingo, Oaxaca; crit.; descr. eggs); Cat. Am. Birds, 1862, 3 (Orizaba).—BAIRD, Review Am. Birds, 1864, 24 part (Jalapa; Orizaba).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (hot and temperate zones, Vera Cruz).

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[a] Four specimens. [b] Seven specimens.

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Merula tristis assimilis CHAPMAN, Bull. Am. Mus. N. H., x, Feb. 24, 1898, 19 (Jalapa; song; crit.).

Planesticus assimilis BONAPARTE, Compt. Rend., xxxviii, 1854, 4.

Turdus tristis (not *Merula tristis* Swainson) SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Cordova, Vera Cruz), 1859, 330, part (monogr.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 15, part (Orizaba, etc., Vera Cruz; Teotalcingo and Juquila, Oaxaca?).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 211, part (in synonymy).—SHARPE, Bull. Brit. Orn. Club, no. 1, 1898, p. xxvi, part (crit.); Ibis, 1898, 289, part (do.).

[*Turdus*] *tristis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

Merula tristis FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, Sept. 15, 1886, 131 (Jalapa).

[*Merula*] *tristis* SHARPE, Hand-list, iv, 1903, 123, part.

[*Planesticus*] *tristis* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3, part (Jalapa).

PLANESTICUS TRISTIS CNEPHOSA (Bangs).

SALVIN'S THRUSH.

Similar to *P. t. assimilis*, but more decidedly olive (less brown) above, the color of upper parts averaging clear olive, but varying from brownish olive to grayish olive in extremes; the chest, sides, and flanks averaging light hair brown.

Adult male.—Length (skins), 208–232 (215); wing, 113–125.5 (121.9); tail, 79–103 (92.9); exposed culmen, 19–21 (19.7); tarsus, 28 5–32 (30); middle toe, 19–23 (20.5).[a]

Adult female.—Length (skins), 212–217 (214); wing, 117–120 (118.1); tail, 87–93 (91.1); exposed culmen, 19–20.5 (19.9); tarsus, 28.5–30.5 (29.5); middle toe, 19–21 (19.9).[b]

[a] Fourteen specimens.

[b] Five specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
Three adults (sex undetermined) from Guatemala	118.3	96	19	30.2	20.5
MALES.					
Two adult males from eastern Oaxaca (Santo Domingo)	122.2	99	20.5	32	22.5
Three adult males from Costa Rica	122.2	92	19.5	29.7	20.5
Nine adult males from Chiriqui	121.7	92.6	19.9	30.1	20.4
FEMALES.					
Three adult females from Costa Rica	118.3	92.5	19.5	29.8	20.3
Two adult females from Chiriqui	117.7	89	20	29	19.2

I am not able to discover any difference in coloration between specimens from different localities, except such as indicate individual variation, which is considerable.

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Pacific slope of Central America, from southeastern Oaxaca (Santo Domingo, breeding), through western Guatemala to Costa Rica (Barranca; Dota; Santa Maria; Navarro) and Panama (Boquete; Divala).

Merula leucauchen (not *Turdus leucauchen* Sclater) NELSON, Auk, xv, April, 1898, 161, part (near Santo Domingo, Oaxaca).—BANGS, Auk, xviii, 1901, 368 (Divala, Chiriqui).

Turdus leucauchen (not of Sclater) BAIRD, Review Am. Birds, 1864, 24, part (Dota Mts., Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (Navarro and Dota, Costa Rica).

(?) *T[urdus] leucauchen* SHARPE, Bull. Brit. Orn. Club, no. 1, 1898, p. xxvi (crit.); Ibis, 1898, 289 (do).

(?) *Turdus tristis* (not *Merula tristis* Swainson) SALVIN, Ibis, 1870, 180 (Calovevora, Calobre, Boquete de Chitra, and Volcan de Chiriqui, Panama; crit.)—UNDERWOOD, Ibis, 1896, 432 (Volcan de Miravalles, Costa Rica).

Turdus tristis SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 15, part (Dueñas, Guatemala; Dota Mts., and Navarro, Costa Rica).[a]—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 211, part (Nicaragua; Costa Rica).

[*Turdus*] *tristis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

(?) [*Planesticus*] *tristis* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3, part ("Central America").

Turdus assimilis (not of Cabanis) SALVIN, Ibis, 1860, 272 (Dueñas, Guatemala).—BAIRD, Review Am. Birds, 1864, 24, part (Dueñas).

Merula leucauchen dagnæ (not *Turdus dagnæ* Berlepsch) BANGS, Proc. New Engl. Zool. Club, iii, Jan. 30, 1902, 49 (Boquete, Chiriqui, 4000 to 5000 ft.; crit.).

Merula leucauchen cnephosa BANGS, Proc. New Engl. Zool. Club, iii, Oct. 10, 1902, 92 (Boquete, Chiriqui, 4000 ft.; coll. E. A. and O. Bangs).

[*Merula*] *cuephosa* (typographical error) SHARPE, Hand-list, iv, 1903, 123.

PLANESTICUS TRISTIS LEUCAUCHEN (Sclater).

WHITE-THROATED THRUSH.

Similar to *P. t. cnephosa*, but much darker and grayer, the upper parts olivaceous slate color or dull slate, the chest, sides, and flanks mouse gray or smoke gray to hair brown, the black streaks on throat averaging broader, the white patch on lower throat more conspicuous from greater contrast with darker adjacent colors. Young very much darker than that of *P. t. tristis*,[b] with general color of upper parts dark sooty brown or deep sepia, the under parts much more heavily spotted with sooty.

Adult male.—Length (skins), 213–227 (222); wing, 117.5–127 (122.7); tail, 88–99 (95); exposed culmen, 20–21 (20.7); tarsus, 28.5–29.5 (29); middle toe, 19.5–20.5 (20).[c]

[a] Without examination of specimens from the other localities cited in the "Biologia" I can not, of course, be sure as to their correct allocation.

[b] The young of *P. t. assimilis* and *P. t. cnephosa* not seen.

[c] Four specimens, from Costa Rica.

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Adult female.—Length (skin), 216; wing, 119.5; tail, 93; exposed culmen, 20.5; tarsus, 29.5; middle toe, 20.[a]

Northern and central Guatemala (Department of Vera Paz) to central Costa Rica (Santa Maria).[b]

Turdus leucauchen SCLATER, Proc. Zool. Soc. Lond., 1858 (pub. 1859), 447 (Guatemala; coll. P. L. Sclater); 1859, 328 (monogr.); Cat. Am. Birds, 1862, 3 (Guatemala).—SCLATER and SALVIN, Ibis, 1859, 6 (Guatemala); Proc. Zool. Soc. Lond., 1870, 838 (Honduras).—BAIRD, Review Am. Birds, 1864, 24, part (Choctum, Guatemala).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 212 (n. e. Guatemala to Costa Rica).

(?) *Turdus leucauchen* SALVIN, Proc. Zool. Soc. Lond., 1867, 132 (Santa Fé and Cordillera de Tolé, Veragua; crit.)—FRANTZIUS, Journ. für Orn., 1869, 290 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (Orosi, Costa Rica).

Merula leucauchen NELSON, Auk, xv, Apr., 1898, 161, part (Guatemala).

[*Merula*] *leucauchen* SHARPE, Hand-list, iv, 1903, 123.

T[*urdus*] *leucauchen* SHARPE, Bull. Brit. Orn. Club, no. 1, 1898, p. xxvi, part (Chiapas to Panama); Ibis, 1898, 289, part (do.).

[*Planesticus*] *leucauchen* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 3 (Guatemala).

(?) *Turdus tristis* (not *Merula tristis* Swainson) SALVIN, Ibis, 1872, 314 (Choutales, Nicaragua).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 838 (e. Honduras; crit.).

Turdus tristis SALVIN and GOODMAN, Biol. Centr.-Am., Aves, i, 1879, 15, part (Coban and Choctum, Guatemala; San Pedro, Honduras; etc.).[c]

[*Turdus*] *tristis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

[a] One specimen, from Costa Rica.

These compare in average measurements with Guatemalan specimens (not sexed) as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
Seven adults (sex unknown) from Guatemala	117.7	91.6	18.3	29.5	20.6
MALES.					
Four adult males from Costa Rica	122.7	95	20.7	29	20
FEMALE.					
One adult female from Costa Rica	119.5	93	20.5	29.5	20

[b] Owing to lack of a sufficient number of specimens with exact locality recorded I am not able to define very exactly the respectives ranges of this form and *P. t. cnephosa*. In a series of seven specimens from Santa Maria, Costa Rica, there are five *P. t. leucauchen* and two *P. t. cnephosa*. Santa Maria is on the western border of the central plateau, near the head of a stream which flows into the Pacific. It is, therefore, possible that the mingling of the two forms in the locality mentioned results from the intrusion along the valley of this stream by *P. t. cnephosa* from the westward.

[c] Examination of specimens from other localities cited would of course be necessary to enable one to determine which form is represented in each.

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PLANESTICUS GYMNOPHTHALMUS (Cabanis).

NAKED-EYED THRUSH.

Adults (*sexes alike*).—Above plain olive or grayish olive, the primaries and rectrices darker, with olive or grayish edgings; chin and throat dull white, the latter streaked with grayish brown or olive; chest, breast, sides, and flanks, plain pale buffy olive or grayish brown (varying from light grayish isabella color to pale hair brown); abdomen and under tail-coverts white, the latter with much of concealed light grayish olive or brownish gray, the outer webs of lateral feathers largely of this color; axillars and larger under wing-coverts buff, tinged with pale grayish olive; bill light yellow, basal portion brownish or dusky (in dried skins); iris yellowish brown,[a] red,[b] or brown;[a] legs and feet light yellowish horn color in dried skins, gray[a] or yellowish gray[a] in life; bare orbital space orange[b] or yellow.[c]

Young.—"Birds of the year have ochraceous tips to the greater wing-coverts. Young in first plumage have the characteristic ochraceous shaft-lines to the feathers of the upper parts, ochraceous centers to those of the underparts, and dark tips to both."[d]

Adult male.—Length (skins), 195–230 (218); wing, 109–121.5 (116.6); tail, 90–104 (96.6); exposed culmen, 17–20 (19); tarsus, 29.5–31 (30.7); middle toe, 19.5–21 (20.2).[e]

Adult female.—Length (skins), 197–228 (212); wing, 111.5–120 (115.8); tail 87.5–100 (94.2); exposed culmen, 18.5–20.5 (19.8); tarsus, 28–31.5 (30.2); middle toe, 20–21 (20.4).[f]

[a] W. B. Richardson, on labels.
[b] F. A. Ober, on label.
[c] Goeldi.
[d] Seebohm, Cat. Birds Brit. Mus., v, 1881, 213.
[e] Eleven specimens.
[f] Six specimens.

Specimens from different localities compare as follows in average measurements:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Grenada	114.3	94.6	18.3	31.1	20.4
Two adult males from St. Vincent	120.5	102.2	20	30	20.2
Four adult males from Tobago	117.5	96.2	19.1	30.5	19.9
FEMALES.					
Three adult females from Grenada	117.3	94.2	19.5	31.2	20.7
One adult female from Venezuela (Valencia)	114.5	96.5	20.5	30	20
One adult female from British Guiana (Paramaribo)	111.5	94.5	19	28	20
One adult female from Cayenne	117	91.5	20.5	30	20.5

The series examined is very deficient in specimens from the mainland, so that I am unable to determine satisfactorily whether the island birds are really identical or not. The single Cayenne example is decidedly browner than any of the others.

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Northeastern South America, from northeastern Brazil (Anapa), through Cayenne, British Guiana, and Venezuela, to Colombia(?); Trinidad; islands of Grenada, Carriacou, and St. Vincent, Lesser Antilles.

Turdus gymnophthalmus CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 665 (Guiana; Cayenne; Caracas, Venezuela).—SCLATER, Proc. Zool. Soc. Lond., 1859, 329 (monogr.); Cat. Am. Birds, 1862, 4 (Venezuela).—TAYLOR, Ibis, 1864, 80 (Trinidad).—SCLATER and SALVIN, Exotic Orn., 1869, 151, pl. 76.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 212 (Caracas, Venezuela; Trinidad; Guiana; Cayenne; Colombia).—SALVIN, Ibis, 1885, 198 (Roraima, British Guiana, 3,500 ft.).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 610 (Grenada, Lesser Antilles; habits; descr. nest and eggs).—LAWRENCE, Proc. U. S. Nat. Mus., ix, 1887, 610 (Grenada; crit.).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 2 (Orinoco distr., Venezuela; descr. nest and eggs).

[*Turdus*] *gymnophthalmus* GRAY, Hand-list, i, 1869, 257, no. 3740.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.

T[*urdus*] *gymnophthalmus* GOELDI, Ibis, 1897, 161 (Anapa, n. e. Brazil).

[*Merula*] *gymnophthalma* CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 123.

Merula gymnophthalma CORY, Auk, iii, 1886, 4 (syn. and descr.); x, 1893, 220 (Tobago); Birds West Ind., 1889, 18; Cat. Birds West Ind., 1892, 122, 157 (Grenada; St. Vincent).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 22 (Trinidad; habits; song).—WELLS, Auk, xix, 1902, 349 (Carriacou, Lesser Antilles; song; descr. eggs).

[*Planesticus*] *gymnophthalmus* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4 (Cayenne; Caracas, Venezuela).

Turdus nudigenis LAFRESNAYE, Rev. Zool., xi, Jan., 1848, 4 (Caracas, Venezuela).—LÉOTAUD, Ois. Trinidad, 1866, 201.

Turdus gymnopsis BONAPARTE, Consp. Av., i, 1850, 272 (ex Temminck, manuscript).

T[*urdus*] *gymnogenys* (lapsus) SCLATER and SALVIN, Ibis, 1879, 357, in text (Venezuela; Trinidad).

Turdus caribbæus LAWRENCE, Ann. N. Y. Acad. Sci., i, July, 1878, 160 (Grenada, Lesser Antilles; coll. U. S. Nat. Mus.).

Turdus carribæus LAWRENCE, Proc. U. S. Nat. Mus., i, 1879, 267 (Grenada).

Turdus caribbæus LAWRENCE, Proc. U. S. Nat. Mus., i, 1879, 486 (Grenada).

Merula caribbæa CORY, Ibis, 5th ser., iv, Oct., 1886, 472 (St. Vincent, Lesser Antilles; crit.).

PLANESTICUS OBSOLETUS (Lawrence).

LAWRENCE'S THRUSH.

Adult male.—Above uniform bright warm-sepia or prouts brown, slightly lighter on rump and upper tail-coverts; chin and throat pale grayish brown or dull brownish white, streaked with warm-sepia brown; chest and breast plain deep wood brown or isabella color, deepening on sides and flanks into deep tawny brown or raw-umber; abdomen, anal region, and under tail-coverts white conspicuously contrasted with deep brown of flanks, the lateral under tail-coverts more or less broadly edged with brown; under wing-coverts ochraceous-buff, the axillars intermediate between this and color of sides;

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inner webs of remiges becoming pale cinnamon or cinnamon-buff basally; bill dusky brown or blackish; iris brown; legs and feet horn brown (in dried skins); length (skins), 206–226 (215); wing, 117–129.5 (123.2); tail, 84–96.5 (90.6); exposed culmen, 20–22 (21); tarsus, 30–31 (30.5); middle toe, 20.5–22.5 (21.5).[a]

Adult female.—Very similar to the adult male and probably not always distinguishable, but usually (?) with coloration very slightly paler and duller; length (skin), 205; wing, 115; tail, 83.5; exposed culmen, 19.5; tarsus, 29.5; middle toe, 21.[b]

Young.—Upper parts as in adults, but the brown duller and more olivaceous, the feathers of back and pileum with indistinct and very narrow shaft-lines of paler; wing-coverts tipped with a small triangular or wedge-shaped spot of ochraceous-buff; chin and throat very pale buffy grayish, indistinctly streaked with olive-brown; chest olive-brown, indistinctly spotted with darker; breast pale dull buff, fading into white on abdomen, the breast and upper abdomen spotted with dark olive-brown; otherwise like adults.

Highlands of Costa Rica (Cervantes; Orosí; Volcan de Poás; Guapiles; El Zarcero; Juiz) and Panama (Caribbean slope, Volcan de Chiriqui; Santa Fé de Veragua; Loma del Leon), and southward to western Ecuador (Chimbo).[c]

Turdus obsoletus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, Feb., 1862, 470 (Lion Hill, Panama R. R.; coll. G. N. Lawrence); ix, 1868, 91, 145 (Cervantes, Costa Rica; crit.).—BAIRD, Review Am. Birds, 1864, 28 (Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 133 (Santa Fé, Veragua; crit.); 1870, 180 (Costa Rica; crit.); Ibis, 1869, 312 (crit.).—FRANTZIUS, Journ. für Orn., 1869, 290 (Orosi and Volcan de Poás, Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (Naranjo, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 19.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 218.—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 539 (Chimbo, w. Ecuador; crit.).

[*Turdus*] *obsoletus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1.

Merula obsoleta BANGS, Proc. New Engl. Zool. Club, iii, 1902, 49 (Volcan de Chiriqui, 4500 ft.).

[*Merula*] *obsoleta* SHARPE, Hand-list, iv, 1903, 124.

PLANESTICUS NIGRIROSTRIS (Lawrence).

BLACK-BILLED THRUSH.

Very similar to *P. obsoletus*, but with larger bill and feet, shorter wing and tail, and slightly paler coloration.

Adults (sexes alike).—Above plain olive-brown (between bistre and raw-umber); chin and throat pale brownish buff or brownish white, streaked with olive or olive-brown; chest, breast, sides, and flanks plain wood brown or isabella color (the feathers sometimes with very

[a] Five specimens.

[b] One specimen.

[c] According to Berlepsch and Taczanowski.

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indistinct shaft-streaks of darker); abdomen brownish white or very pale brownish buff; under tail-coverts dull white or very pale brownish buff, with more or less distinct mesial streaks of light olive-brown, the concealed portion mostly of this color; axillars and under wing-coverts ochraceous-buff, with more or less distinct mesial streaks of light olive-brown; inner webs of remiges edged (not sharply) with pale ochraceous-cinnamon, especially toward base; bill deep or dark horn color (in dried skins),[a] the mandible sometimes partly paler; iris yellow[b] or olive-brown;[b] legs and feet brownish horn color in dried skins, gray or dirty white in life.[b]

Adult male.—Length (skins), 220–228 (224); wing, 113–120 (116.5); tail, 84.5–91.5 (88); exposed culmen, 20–23.5 (21.9); tarsus, 33–34 (33.5); middle toe, 22–23 (22.6).[c]

Adult female.—Length (skin), 225; wing, 110–118.5 (114.5); tail, 82.5–86.5 (84.3); exposed culmen, 21–22.5 (21.7); tarsus, 33.5–34.5 (33.9); middle toe, 21–23.5 (22.4).[d]

Islands of St. Vincent and Grenada, Lesser Antilles.

Turdus nigrirostris LAWRENCE, Ann. N. Y. Acad. Sci., i, June, 1878, 147 (St. Vincent, Lesser Antilles; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., i, 1878, 187 (St. Vincent); i, 1879, 267 (Grenada), 486 (St. Vincent; Grenada).—LISTER, Ibis, 1880, 39 (St. Vincent).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 218 (St. Vincent).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 609 (Grenada; habits; notes; descr. nest and eggs).—NICOLL, Ibis, 1904, 564 (Grand Étang, Grenada).

[*Merula*] *nigrirostris* CORY, List Birds West Ind., 1885, 5.—SHARPE, Hand-list, iv, 1903, 125.

Merula nigrirostris CORY, Auk, iii, 1886, 4 (St. Vincent); Ibis, 1886, 472 (St. Vincent); Birds West Ind., 1889, 18; Cat. West Ind. Birds, 1892, 19, 122, 134 (St. Vincent; Grenada).

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[a] Said by W. B. Richardson to be sometimes yellowish in life.

[b] W. B. Richardson, on labels of specimens.

[c] Five specimens.

[d] Four specimens.

St. Vincent and Grenada specimens compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from St. Vincent	117.7	88.5	23	33.5	23
Three adult males from Grenada	115.7	87.7	21.2	33.7	22.3
FEMALES.					
Two adult females from St. Vincent	111.7	84.7	21.5	33.7	22.5
Two adult females from Grenada	117.2	84.5	22	34	22.2

All the Grenada specimens examined are more olive above, the color of breast lighter and less rufescent and have the ochraceous-buff of under wing-coverts lighter and more distinctly streaked with light olive. Should the differences observed prove constant in a larger series the birds from the two islands should be considered as subspecifically distinct.

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PLANESTICUS GRAYI GRAYI (Bonaparte).

GRAY'S THRUSH.

Adult (sexes alike).—Above plain ochraceous-olive or buffy olive, the tail and wings (in part at least) duller or grayer (the former more olivaceous hair brown); chin and throat pale buff (sometimes approaching buffy white on chin), streaked with olive; rest of under parts dull brownish buff or clay color, duller (approaching wood brown or isabella color) on chest, deeper (deep clay color or cinnamon-buff) on flanks, purer buff on under tail-coverts and abdomen; axillars and under wing-coverts clear ochraceous-buff or light ochraceous, the inner webs of remiges (except terminally) broadly edged with pinkish buff; bill horn color (in dried skins) with paler tomia; legs and feet brownish or horn color (in dried skins).

Young.—Much like adults in general coloration, but scapulars and interscapulars with more or less distinct shaft-streaks of pale ochraceous or buffy, wing-coverts tipped with a triangular spot of ochraceous or ochraceous-buff, superciliary region minutely flecked with buffy brighter, more ochraceous, thickly spotted (transversely), except on throat, abdomen, and under tail-coverts, with grayish dusky.

Adult male.—Length (skins), 220–244 (231); wing, 116–132.5 (125.2); tail, 95–109.5 (102); exposed culmen, 18.5–23 (21.1); tarsus, 28–33.5 (31.5); middle toe, 20–22 (21.2).[a]

Adult female.—Length (skins), 216–238 (226); wing, 110–130.5 (120.8); tail, 91–104 (98.3); exposed culmen, 19.5–22.5 (20.9); tarsus, 29.5–33 (31.8); middle toe, 20–22.5 (20.9).[b]

[a] Twenty-five specimens.

[b] Twelve specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Vera Cruz (8), Puebla (1), and Oaxaca (1)	127	105	21.7	31.8	21.1
One adult male from interior of Tabasco (Teapa)	120.5	97	20.5	29.5	20
Four adult males from Chiapas (3) and Guatemala (1)	124.2	101.8	21	32.2	21.4
Ten adult males from northern Honduras (Celba)	124.2	99.5	20.5	31	21.3
FEMALES.					
Five adult females from Vera Cruz	117.3	96.5	21.2	32.2	21.2
Three adult females from Oaxaca	123	99	21	32	20.5
Two adult females from Chiapas and Guatemala	121.7	100.2	20.5	31	20.7
Two adult females from northern Honduras (Celba)	125.2	99.7	20.7	31.5	20.7

While considerable variation in coloration, as well as dimensions, is observable in the large series of specimens examined, I am unable to discover any correlation between these variations and geographic area.

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Southern Mexico (except arid coast plain from Tamaulipas to Yucatan) in States of Vera Cruz (Cordova; Jalapa; Mirador; Orizaba), Puebla, Mexico (Valley of Mexico), Oaxaca (Santa Efigenia), Tabasco (Teapa), and Chiapas (Tapachula) and Territory of Tepic (Tepic), southward through Guatemala to Honduras (Ceiba; Yaruca; San Pedro) and Salvador.

Turdus grayi BONAPARTE, Proc. Zool. Soc. Lond., 1837, 118 (Guatemala; type in coll. Velasquez); Consp. Av., i, 1850, 272.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 836 (San Pedro, Honduras).—SCLATER, Proc. Zool. Soc. Lond., 1859, 330 (monogr.; Cordova and Orizaba, Vera Cruz); 1864, 172 (Valley of Mexico), 362 (Jalapa, Vera Cruz); Cat. Am. Birds, 1862, 4 (Tactic, Guatemala; Mexico).—BAIRD, Review Am. Birds, 1864, 26, part (Jalapa, Cordova, and Mirador, Vera Cruz; Oaxaca; Coban, Guatemala; Salvador).—SALVIN, Ibis, 1866, 202, part (Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (hot and temp. regions Vera Cruz).—(?) GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 276 ("Tres Marias;" song).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 266 (Tepic; "Tres Marias?").—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 11 (Sta. Efigenia, Oaxaca; Dec.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 18, part (localities and references pertaining to Mexico, and south to Honduras and Salvador).—SALVIN, Cat. Strickland Coll., 1882, 4 (Guatemala).

Turdus grayii SCLATER and SALVIN, Ibis, 1859, 5, pl. 5, fig. 7 (Guatemala, above 4,000 ft.; habits; song; descr. nest and eggs).—OWEN, Ibis, 1861, 60 (San Gerónimo, Guatemala; habits).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 219, part (excl. references and localities pertaining to Costa Rica and Colombia).

T[urdus] grayi CABANIS, Mus. Hein., i, 1850, 4 (Jalapa).—SCLATER, Proc. Zool. Soc. Lond., 1864, 172 (near City of Mexico).

Turdus grayii SCLATER, Proc. Zool. Soc. Lond., 1859, 370 (Choapam and Villa Alta, Oaxaca).

[*Turdus*] *grayi* SCLATER and SALVIN, Nom. Av. Neotr., 1873, i, part.

Turdus grayi grayi HELLMAYR, Journ. für Orn., Jan., 1902, 50, 51, part (crit.).

Planesticus grayi BONAPARTE, Compt. Rend., xxxviii, 1854, 4.

[*Planesticus*] *grayi* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4 (Jalapa, Vera Cruz; Dueñas, Guatemala).

Merula grayi FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, Sept. 15, 1886, 132 (Jalapa).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 20 (Jalapa; song).—SKINNER, Condor, iii, 1901, 93 (Tapachula, Chiapas; habits; song; descr. nest and eggs).

[*Merula*] *grayi* SHARPE, Hand-list, iv, 1903, 122.

Merula grayii grayii BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, July, 1903, 152 (Ceiba and Yaruca, Honduras).

Turdus tristis (not *Merula tristis* Swainson) SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Cordova, Vera Cruz).

Turdus helvolus (nomen nudum) LICHTENSTEIN, Preis-Verz Mex. Vög., 1830, no. 85 (Mexico); Journ. für Orn., 1863, 57 (reprint).—BONAPARTE, Compt. Rend., xxxviii, 1854, 4; Notes Orn. Coll. Delattre, 1854, 28.

[*Turdus*] *helvolus* LICHTENSTEIN, Nomencl. Av. Nus. Berol., 1854, 26.

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PLANESTICUS GRAYI TAMAULIPENSIS (Nelson).

TAMAULIPAS THRUSH.

Similar to *P. g. grayi*, but paler and duller in color, the upper parts lighter and more grayish (less ochraceous) olive; the under parts pale wood brown or pale dull clay color; wing and tail averageing shorter.

Adult male.—Length (skins), 224–239 (233); wing, 116–128 (122.2); tail, 92–107.5 (100); exposed culmen, 20–23 (21.3); tarsus, 30.5–34 (32.2); middle toe, 20–23 (20.9).[a]

Adult female.—Length (skins), 224–244 (235); wing, 116.5–128 (123); tail, 92–103 (98.9); exposed culmen, 19.5–22 (21.4); tarsus, 31.5–34 (32.6); middle toe, 20–22 (21.2).[b]

Arid coast-plain of southeastern Mexico, in southern Tamaulipas (Victoria; Alta Mira; Forlon), eastern San Luis Potosi (Jilitla; Tancanhuitz), eastern Vera Cruz, northern Tabasco (Frontera) and Yucatan (Chichen-Itza; Merida; Temax; Peto; Meco Island; Mugeres Island; Cozumel Island).

Turdus grayi (not of Bonaparte) LAWRENCE, Ann. Lyc. N, Y., ix, 1869, 199 (Merida, Yucatan).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 439 (Yucatan; habits).—SALVIN, Ibis, 1888, 243 (Meco, Mugeres, and Cozumel islands, Yucatan; crit.).

Merula grayi RICHMOND, Proc. U. S. Nat. Mus., xviii, 1896, 632 (Alta Mira, Tamaulipas).

Merula tamaulipensis NELSON, Auk, xiv, Jan., 1897, 75 (Ciudad Victoria, Tamaulipas, Mexico; coll. U. S. Nat. Mus.).

[*Merula*] *tamaulipensis* SHARPE, Hand-list, iv, 1903, 122.

T[*urdus*] *grayi tamaulipensis* HELMAYR, Journ. für Orn., Jan., 1902, 50, 52 (crit.; Tamaulipas; Temax, Peto, and Mugeres and Meco islands, Yucatan).

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[a] Seventeen specimens.

[b] Nine specimens.

Specimens from Tamaulipas compare in average measurements with those from Yucatan as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Tamaulipas (6) and San Luis Potosi (2)	122.8	100.7	21.4	32.9	21.4
Eight adult males from Yucatan	122.2	100	21.3	32.2	20.9
One adult male from coast of Tabasco (Frontera)	122	101	20	30.5	20.5
FEMALES.					
Five adult females from Tamaulipas	124.2	99.9	21.7	33.1	21.5
Four adult females from Yucatan	121.5	98.9	20.6	31.9	20.7

So far as I am able to see the coloration of Yucatan and Tamaulipas specimens is practically identical.

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PLANESTICUS GRAYI CASIUS (Bonaparte).

BONAPARTE'S THRUSH.

Similar to *P. g. grayi*, but upper parts browner (warmer) olive; under parts decidedly darker, duller, and more uniform (deep wood brown or dull isabella color), becoming buffy (deep buff) only on throat and under tail-coverts; flanks much less rufescent; axillars and under wing-coverts much less brightly colored, the dull brownish ochraceous-buff or brownish buff of these parts not conspicuously different from color of sides; inner webs of remiges much less distinctly edged with buffy. Young duller in color than that of *M. g. grayi*, especially under parts, which are less distinctly spotted. Size slightly smaller.

Adult male.—Length (skins), 209.5–230 (219.3); wing, 111–126 (120.3); tail, 92–106.5 (97.8); exposed culmen, 20–22 (20.7); tarsus, 29–32 (30.7); middle toe, 19.5–22 (20.7).[a]

Adult female.—Length (skins), 213–250 (223.5); wing, 111.5–128 (119.1); tail, 90.5–105 (96.3); exposed culmen, 19.5–22.5 (20.8); tarsus, 27.5–33.5 (30.5); middle toe, 19.5–22.5 (20.7).[b]

Southeastern Honduras (Segovia River), through Nicaragua (Greytown; Rio Escondido; Los Sábalos; Sucuyá; Chontales) and Costa Rica (San José; Barranca; Quebrada Honda; Lepanto; Volcan de Miravalles; La Palma de Nicoya; Pigres; Volcan de Irazú; Coliblanco) to Panama (Loma del Leon; David; Santa Fe; Volcan de Chiriqui; Boquete; Divala).

Planesticus casius BONAPARTE, Compt. Rend., xli, 1855, 657 (Panama; type in coll. Brit. Mus.).

Turdus casius SCLATER, Proc. Zool. Soc. Lond., 1859, 330 (monogr.).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 326 (Lion Hill, Panama R. R.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 220 (Panama).

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[a] Sixteen specimens.

[b] Twenty-five specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from southern Honduras (Segovia River)	118.2	97	21.2	30.2	20
One adult male from Nicaragua	124.5	102	20.5	31.5	22
Three adult males from Costa Rica	120.2	99.1	20.7	31.8	21.8
Ten adult males from Panama	120.3	97.1	20.6	30.4	20.3
FEMALES.					
Two adult females from southern Honduras (Segovia River)	121.7	100.7	21	30	20.5
Two adult females from Nicaragua	128.7	104.7	22.5	33	22
Eleven adult females from Costa Rica	120.3	95.8	20.9	31.2	21.1
Ten adult females from Panama	119.2	96.9	20.8	29.9	20.3

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Merula grayii casius BANGS, Proc. New Engl. Zool. Club, ii, 1900, 27 (Loma del Leon, Panama); iii, 1902, 49 (Boquete, Chiriqui, 4000 to 4500 ft.); Auk, xviii, 1901, 368 (Divala and David, Chiriqui).

[*Merula*] *casius* SHARPE, Hand-list, iv, 1903, 122.

[*Turdus*] *caesius* GRAY, Hand-list, i, 1869, 257, no. 3744.

Turdus grayi (not of Bonaparte) CABANIS, Journ. für Orn., 1860, 323 (Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 344 (Lion Hill, Panama R. R.; crit.).—BAIRD, Review Am. Birds, 1864, 26, part (Costa Rica; Panama).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (San José, Barranca, and Quebrada Honda, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 132 (David and Santa Fé, Veragua; crit.); 1870, 180 (Chitra and Volcan de Chiriqui, Veragua); Ibis, 1866, 202, part (Panama, etc.); 1872, 314 (Chontales, Nicaragua),.—FRANTZIUS, Journ. für Orn., 1869, 290 (Quebrada Honda and Lepanto, Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (San José, Costa Rica; crit.; habits; descr. nest and eggs).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 18, part (references and localities pertaining to Costa Rica, Veragua, Panama, and Colombia).—UNDERWOOD, Ibis, 1896, 432 (Volcan de Miravalles, Costa Rica).—ALFARO, Paginas Illustr., i, 1904, 439 (Costa Rica; habits, etc.).

Turdus grayii LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 175 (David, Veragua).—SALVIN, Ibis, 1866, 202 (lowlands of Central America to Panama).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 219, part.

Merula grayi RIDGWAY, Proc. U. S. Nat. Mus., v, Sept. 5, 1882, 386 (La Palma de Nícoya, w. Costa Rica), 494 (Volcan de Irazú, Costa Rica), 499 (San José, Costa Rica); x, 1888, 584 (Segovia R., Honduras).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 380 (Sucuyá, Nicaragua), 397 (Los Sábalos, Nicaragua.)—CHERRIE, Auk, 1891, 274 (San José, Costa Rica; habits; song; descr. nest and eggs).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 482 (Rio Escondido and Greytown, Nicaragua; song; descr. nest and eggs).

[*Turdus*] *grayi* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 1, part.

Turdus grayi grayi HELLMAYR, Journ. für Orn., Jan., 1902, 50, 51, part (Panama).

PLANESTICUS INFUSCATUS (Lafresnaye).

BLACK THRUSH.

Adult male.—Entirely uniform black, duller and slightly slaty on posterior under parts; bill, legs, and feet yellowish (bright yellow in life?); length (skins), 227–232 (230); wing, 123.5–133 (129.7); tail, 94–102.5 (98.7); exposed culmen, 18.5–21 (19.8); tarsus, 28.5–32.5 (29.5); middle toe, 20–23 (21).[a]

Adult female.—Above uniform olive-brown (nearest raw-umber but much duller), the longer primaries edged with much paler brown; chin and throat dull whitish, the latter, together with malar region, streaked with dusky brown; rest of under parts similar in color to upper parts but paler (nearly isabella color), fading into light isabella color on abdomen and under tail-coverts; axillars and under wing-coverts cinnamon; bill brown (in dried skin); legs and feet dull yellowish (in dried skin); length (skin), 216; wing, 122.5; tail, 91.5; exposed culmen, 18; tarsus, 27.5; middle toe, 20.5.[b]

[a] Six specimens. [b] One specimen.

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Young male.—Above dark sepia brown, the middle and greater wing-coverts tipped with ochraceous-buff or cinnamon, producing two more or less distinct bands across wing, the lesser coverts with a terminal triangular spot or streak of the same; under parts brownish buff or pale dull tawny, passing into dull grayish brown on flanks and under tail-coverts, the chest and breast spotted transversely with black or dusky; bill dusky brown; legs and feet dull yellowish brown (in dried skins).

Highlands of southeastern Mexico, in States of Vera Cruz (Jalapa; Orizaba), Oaxaca (Totontepec) and Chiapas (Pinabete; Tumbala), and Guatemala (Vera Paz; Coban; ridge above San Gerónimo; Quezaltenango).

Merula infuscata LAFRESNAYE, Rev. Zool., 1844, 41 (Mexico; type now in coll. Bost. Soc. Nat. Hist.).

T[urdus] infuscatus GRAY, Gen. Birds, i, 1847, 219.—SCLATER and SALVIN, Ibis, i, 1859, 6 (Guatemala).—SCLATER, Proc. Zool. Soc. Lond., 1859, 334 (monogr.; Jalapa, Vera Cruz; Oaxaca; Guatemala), 362 (Jalapa), 370 (Totontepec, Oaxaca); Cat. Am. Birds, 1862, 5 (Jalapa).—BAIRD, Review Am. Birds, 1864, 31 (Jalapa; Vera Paz, Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (temp. and alpine regions Vera Cruz).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 24 (Coban, ridge above San Gerónimo, and Quezaltenango, Guatemala; Jalapa and mountains of Orizaba, Vera Cruz; Totontepec, Oaxaca).

[*Turdus*] *infuscatus* BONAPARTE, Consp. Av., i, 1850, 275.—GRAY, Hand-list, i, 1869, 258, no. 3769.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.

Merula infuscatra SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 240.

[*Semimerula*] *infuscata* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4 (Totontepec, Oaxaca).

[*Merula*] *infuscatra* SHARPE, Hand-list, iv, 1903, 118.

PLANESTICUS PLEBEJUS (Cabanis).

CABANIS'S THRUSH.

Adults (sexes alike).—Above plain olivaceous hair brown, the head browner (nearly sepia), the rump and upper tail-coverts more olivaceous; under parts light hair brown, slightly paler on center of abdomen, deepening on sides and flanks into nearly the color of the back, etc.; throat pale hair brown, indistinctly streaked with sepia brown; feathers of under parts in general with barely discernible narrow shaft-lines of darker, seen only in certain lights; axillars and under wing-coverts hair brown margined with cinnamon or tawny, the edges of inner webs of primaries slightly tinged basally with the same; under tail-coverts light grayish brown (hair brown) broadly margined with pale brownish buffy and with a central wedge-shaped or sagittate area of the same; bill blackish; iris brown; legs and feet brownish or dusky brown.

Adult male.—Length (skins), 227–241 (232); wing, 128–142.5 (135.8); tail, 94–107 (101.3); exposed culmen, 20.5–22.5 (21.6); tarsus, 31–35 (32.9); middle toe, 21.5–25 (23.1).[a]

[a] Ten specimens.

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Adult female.—Length (skins), 215–238.5 (228.3); wing, 129.5–138 (133.5); tail, 92.5–103 (98.4); exposed culmen, 20–24 (21.8); tarsus, 30–34 (32.2); middle toe, 21–24 (22.7).[a]

Highlands of Costa Rica (San José; Volcan de Irazú; Volcan de Turrialba; Volcan de Poás; Navarro; Dota; El Zarcero; Barranca; La Palma; Cervantes; Grecia; Coliblanco) and Panama (Boquete).

Turdus plebejus CABANIS, Journ. für Orn., viii, Sept., 1860 (pub. Jan., 1861), 323 (Costa Rica; coll. Berlin Mus.)

T[*urdus*] *plebejus* FRANTZIUS, Journ. für Orn., 1869, 290 (Grecia and Cervantes, Costa Rica).

[*Turdus*] *plebejus* GRAY, Hand-list, i, 1869, 258, no. 3754.

Turdus plebeius SCLATER, Cat. Am. Birds, 1862, 358 (Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (Dota, San José, and La Palma, Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (Navarro, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 17 (Volcan de Irazú, etc., Costa Rica).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 215.

[*Turdus*] *plebeius* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.

Merula plebeia RIDGWAY, Proc. U. S. Nat. Mus., v, Feb. 28, 1883, 494 (Volcan de Irazú, Costa Rica).

[*Merula*] *plebeia* SHARPE, Hand-list, iv, 1903, 124.

Merula plebejus BANGS, Proc. New Engl. Zool. Club, iii, 1902, 49 (Boquete, Chiriqui, 4,000 to 7,000 ft.; crit.).

PLANESTICUS DIFFERENS (Nelson).

CHIAPAS THRUSH.

Similar to *P. plebejus*, but larger, coloration much browner and throat practically unstreaked and concolor with chest.

Adult male.—Pileum and hindneck warm-sepia brown, the remaining upper parts similar but brighter and more olivaceous; beneath plain olivaceous broccoli brown, very slightly paler on chin and throat, deeper and inclining to raw-umber brown on sides, flanks, and under tail-coverts, the last margined with pale brownish buff; feathers of under parts in general with barely discernible narrow shaft-streaks of darker brown (only seen in certain lights); axillars and under wing-coverts cinnamomeous wood brown, the color brighter on margins of the feathers; bill brownish black; legs and feet dark brown (in dried skins); length (skins), 247–253 (250); wing, 135–141.5 (138.2); tail, 103–105 (104); exposed culmen, 23; tarsus, 34; middle toe, 22–23 (22.5).[b]

Highlands of Chiapas (Pinabete), southern Mexico.

Merula plebeius (not *Turdus plebejus* Cabanis) NELSON, Auk, xv, 1898, 161 (Pinabete, Chiapas).

Merula plebeia differens NELSON, Proc. Biol. Soc. Wash., xiv, Sept. 25, 1901, 175 (Pinabete, Chiapas; coll. U. S. Nat. Mus.).

[*Merula*] *differens* SHARPE, Hand-list, iv, 1903, 124.

[a] Ten specimens. [b] Two specimens.

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PLANESTICUS NIGRESCENS (Cabanis).

SOOTY THRUSH.

Adult male.—General color uniform deep grayish sepia brown or sooty, becoming black, or nearly so, on lores, orbital region, wings, and tail, the last two slightly glossy; bill, eyelids, legs, and feet yellowish (deep orange-yellow in life); iris very pale olive-gray or grayish white; length (skins), 237–259 (250); wing, 136–147.5 (142.4); tail, 112–123 (117); exposed culmen, 20–22.5 (21.3); tarsus, 33.5–38.5 (36.7); middle toe, 22.5–26 (24.3).[a]

Adult female.—Similar in coloration to the adult male and not always distinguishable, but usually slightly paler or browner; orange-yellow of bill, etc., less intense, and legs and feet duller yellow (dull lemon yellow in life); length (skins), 238–257 (248.4); wing, 132.5–140 (136.8); tail, 107.5–119.5 (113); exposed culmen, 20–23 (21.4); tarsus, 35–37.5 (35.9); middle toe, 23–25 (23.8).[b]

Young.—Above much as in adults, but more or less conspicuously streaked from occiput to rump with light ochraceous or buffy, the wing-coverts with terminal triangular spots of the same; under parts light ochraceous or brownish buff, everywhere (except on throat) heavily spotted with dusky.

High mountain summits of Costa Rica (Volcan de Poás; Volcan de Irazú; Volcan de Turrialba; Dota; Rancho Redondo) and Panama (Volcan de Chiriqui).

Turdus nigrescens CABANIS, Journ. für Orn., viii, Sept., 1860 (pub. Jan., 1861), 324 (Volcan de Irazú, Costa Rica; coll. Berlin Mus.).—SCLATER, Cat. Am. Birds, 1862, 358 (Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (Irazú and Dota, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 290 (Volcan de Irazú, Costa Rica, alt. 9,000 to 10,000 ft.).—SALVIN, Proc. Zool. Soc. Lond., 1870, 180 (Volcan de Chiriqui, Veragua).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 50 (Volcan de Irazú, Costa Rica, 6,000 to 10,000 ft.; descr. nest and eggs; habits).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 25, pl. 4.

[a] Twenty specimens.

[b] Eleven specimens.

Costa Rican specimens compare in average measurements with a series from Chiriqui, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Costa Rica	141.3	116.2	21.6	36.7	24.4
Ten adult males from Volcan de Chiriqui	143.4	117.6	21.1	36.6	24.2
FEMALES.					
Four adult females from Costa Rica	135	111.2	21.5	35.5	24.1
Seven adult females from Volcan de Chiriqui	137.9	114	21.4	36.2	23.7

There is apparently no difference in elevation.

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[*Turdus*] *nigrescens* GRAY, Hand-list, i, 1869, 258, no. 3763.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.

Merula nigrescens SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 242 (Volcan de Irazú).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 494 (summit Volcan de Irazú, Costa Rica).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 49 Volcan de Chiriqui, 10,000 to 11,000 ft.).

[*Semimerula*] *nigrescens* SHARPE, Hand-list, iv, 1903, 130.

Genus TURDUS Linnæus.

Turdus LINNÆUS, Syst. Nat., ed. 10, i, 1758, 168. (Type, by elimination, *Turdus viscivorus* Linnæus.)

Copsichus (not *Copsychus* Wagler, 1827) KAUP, Entw. Eur. Thierw., 1829, 157. (Type, *Turdus torquatus* Linnæus.)

Ixocossyphus KAUP, Entw. Eur. Thierw., 1829, 145. Type, *Turdus viscivorus* Linnæus.)

Arceuthornis KAUP, Entw. Eur. Thierw., 1829, 93. (Type, *Turdus pilaris* Linnæus.)

Cichloides KAUP, Entw. Eur. Thierw., 1829, 153. (Type, *Turdus atrogularis* Temminck.)

Thoracocincla REICHENBACH, Av. Syst. Nat., 1850, pl. 53. (Type, *Turdus torquatus* Linnæus.)

Iliacus DES MURS, Traité Ool. Orn., 1860, 292. (Type, *Turdus illas* Pallas= *T. iliacus* Linnæus.)

Large to medium-sized Turdidæ, with only three primaries (eighth, seventh, and sixth) sinuated on outer web, outermost (tenth) primary very minute (little, if any, more than half as long as primary coverts, not more than one-fourth as long as ninth primary), narrow, and pointed, and middle toe (without claw) at least two-thirds as long as tarsus (usually more).[a]

Bill much shorter than head, rather stout, deeper than wide at frontal antiæ; exposed culmen, shorter (or at least not longer) than outer toe (with claw), straight basally, then gradually but not strongly decurved toward tip; gonys much longer than mandibular rami (nearly equal to distance from nostril to tip of maxilla), straight or very faintly convex, gradually ascending terminally; maxillary tomium nearly straight (but appreciably concave at or anterior to middle

[a] This diagnosis covers a group of Palæarctic Turdidæ, including many species besides the type (*T. viscivorus*), some of which, while exceedingly similar to certain *Planestici* in other characters, including even coloration, nevertheless differ from all the latter in every one of the characters mentioned with the exception of the minute spurious primary, which, however, is so nearly diagnostic in the strictest sense that only one *Planesticus* (*P. migratorius*) among all those examined agrees with *Turdus* in that respect.

The detailed description of generic characters is, however, drawn up from *T. viscivorus*, *T. iliacus*, and *T. musicus* alone. It is almost certain that the group in its larger sense should be subdivided, but as the present work is directly concerned with only a single species (*T. iliacus*), which occurs in America merely as a straggler to Greenland, I shall not go further into the subject.

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portion), more or less distinctly notched subterminally. Nostril relatively small, horizontally oval, ovate, or fusiform, overhung by membrane, posteriorly in contact with frontal feathering. Rictal and decumbent post-nasal bristles well developed; loral feathers, also those of chin, with distinct bristle-like points (more minute in *T. musicus*). Wing long and pointed, the longest primaries exceeding longest secondaries by more than length of tarsus (by combined length of tarsus and middle toe, without claw, in *T. viscivorus*); outermost (tenth) primary minute, narrow, more or less acuminate (less so in *T. viscivorus*), about one-sixth as long as ninth (decidedly less in *T. musicus*), the latter nearly equal to sixth (longer in *T. iliacus*), the eighth or eighth and seventh longest; three primaries (eighth to sixth, inclusive) with outer web sinuated. Tail shorter than wing, but equal to or longer than distance from bend to end of secondaries, two-and-a-half (*T. musicus*) to more than three times (*T. viscivorus*) as long as tarsus, nearly even (*T. viscivorus*), slightly emarginate (*T. iliacus*) or slightly double-rounded (*T. musicus*). Tarsus relatively short and rather stout (longer and more slender in *T. musicus*), nearly one-third as long as wing (*T. musicus*) to less than one-fourth as long (*T. viscivorus*), the acrotarsium fused on both sides (except lower portion); middle toe (without claw) two-thirds as long as tarsus (*T. musicus*) or decidedly more (*T. iliacus* and *T. viscivorus*); lateral toes slightly unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond (outer toe shorter, barely exceeding the inner, in *T. musicus*); hallux slightly shorter than inner toe; basal phalanx of middle toe united for basal half or more to outer toe, for much less than half to inner toe; claws normal (rather short and blunt in *T. viscivorus*), that of hallux decidedly shorter than its digit.

Coloration.—Above plain brown or gray (the longer wing-coverts and secondaries with paler edgings in *T. viscivorus*); no white on tail; under parts whitish spotted or streaked with dusky; axillars and under wing-coverts plain white, buff, or rufous-cinnamon; no light-colored area or "pattern" at base of inner webs of remiges.

Nidification.—Nest bulky, open above, usually placed in small trees or bushes, sometimes on the ground, composed exteriorly of fine twigs, dry grasses, dead leaves, moss, etc., the inside plastered with mud, this lined with fine dry grass stems, fine rootlets, bits of decayed wood, etc.; eggs greenish blue (more or less deep) or whitish (rarely reddish), speckled or otherwise marked with brown or blackish.

Range.—Palæarctic region (one species accidental in Greenland). (Number of species indefinite, depending on the limits assigned to the genus.)

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TURDUS ILIACUS Linnæus.

RED-WINGED THRUSH.[a]

Adults (sexes alike) in spring and summer.—Above plain grayish brown or olive, lighter and slightly grayer posteriorly, the larger wing-coverts and remiges with decidedly paler edgings; a superciliary stripe of dull white; a malar stripe of dull white, widening posteriorly where extending to sides of neck, this stripe margined below by a submalar series of dusky streaks, forming a broken stripe along each side of throat; general color of under parts dull white, the sides, flanks, axillars, and under wing-coverts plain cinnamon-rufous or vinaceous-cinnamon; throat streaked, more or less, with dusky; chest with much larger and broader streaks of dusky brown, these continued backward along sides of breast and abdomen; bill dusky, the mandible paler (yellowish) basally; iris brown; legs and feet pale brownish in dried skins, dirty flesh color in life.

Adults in autumn and winter.—Similar to the spring and summer plumage, but upper parts browner; superciliary stripe, neck-spot, chest, and breast, tinged, more or less strongly, with buff; streaks on chest, etc., darker, and cinnamon-rufous of sides and flanks deeper.

Young.—"Similar to the adult, but the feathers on the back and scapulars have a pale yellowish white streak down the center; upper wing-coverts broadly edged with rufous, and having a rufous spot at the tip, the secondaries being also tipped with whitish; superciliary streak not so large or clearly defined as in the adult; under parts dull white, profusely spotted on the breast with dark brown and having a yellowish tinge on the fore part of the breast; flanks dull rufous with an orange tinge; under wing-coverts rufous; under tail-coverts dirty white."[b]

Adult male.—Length (skin), 213; wing, 114.5–118.5 (116.8); tail, 75.5–79.5 (78); exposed culmen, 18–19 (18.5); tarsus, 28.5–30 (29.3); middle toe, 19.5–22 (21).[c]

Adult female.—Length (skins), 200–211 (205); wing, 113–120 (116.6); tail, 78–84 (81); exposed culmen, 17–19 (17.8); tarsus, 28–29 (28.5); middle toe, 19.5–20.5 (20.1).[d]

Palæarctic Region; breeding "in the birch region and in the upper zone of the pine region" of northern Europe and Asia; wintering in the British Islands, western and southern Europe, Algiers, Persia, Turkestan, northwestern India, etc. Accidental in Greenland (two specimens taken at Frederikshaab, October 20, 1845).

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[a] A most inappropriate vernacular name, but unfortunately too long in use to be now displaced.

[b] Dresser, Birds of Europe, ii, 36.

[c] Three specimens.

[d] Five specimens.

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[*Turdus*] *iliacus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 168; ed. 12, i, 1766, 292.—GMELIN, Syst. Nat. i, 1788, 808.—LATHAM, Index Orn., i, 1790, 329.—GRAY, Hand-list, i, 1869, 254, no. 3678.

Turdus iliacus BECHSTEIN, Naturg. Deutschl., iv, 1795, 209; Orn. Taschenb., i, 1802, 146.—WOLF, Taschenb., i, 1810, 196.—TEMMINCK, Man. d'Orn., 1815, 89; 2d ed., i, 1820, 165.—KOCH, Syst. baier. Zool., i, 1816, 175.—NAUMANN, Vög. Deutschl., ii, 1822, 276, pl. 67, fig. 1.—BREHM, Vög. Deutschl., 1831, 385.—GOULD, Birds Europe, ii, 1837, pl. 78, fig. 2; Birds Gt. Brit., ii, 1864, pl. 34.—KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. 2, 176.—WERNER, Atl., Insectivores, 1842, pl. 14.—BONAPARTE, Consp. Av., i, 1850, 270.—MIDDENDORFF, Reis. Sibir., Zool., ii, pt. 2, 1853, 169.—SCHLEGEL, Vög. Nederl., 1854, 212.—REINHARDT, Journ. für Orn., 1854, 439 (Greenland); Ibis, 1861, 6 (Frederikshaab, Greenland, 2 specs., Oct. 20, 1845).—SUNDEVALL, Sv. Fogl., 1856, 51.—LINDERMAYER, Vög. Griechenl., 1860, 84.—NEWTON, ed. Blasius List Birds Eur., 1862, 9; in Baring-Gould's Iceland, 1863, 408; ed. Yarrell's Hist. Brit. Birds, i, 1872, 268.—JERDON, Birds India, i, 1862, 532.—RADDE, Reis. Sibir., Vög., 1863, 234.—BAIRD, Review Am. Birds, 1864, 23 (Greenland).—DEGLAND and GERBE, Orn. Eur., i, 1867, 421.—LOCHE, Expl. Sci. Algér., Ois., 1867, 189.—DROESTE, Journ. für Orn., 1869, lll (Färöes).—FRITSCH, Vög. Eur., 1870, 142, pl. 18, fig. 5.—SALVADORI, Fauna Italica, Ucc., 1871, 82.—TACZANOWSKI, Journ. für Orn., 1872, 444 (e. Siberia).—SHARPE and DRESSER, Birds Europe, ii, 1881, 35, pl. 3.—HARTING Handb. Brit. Birds, 1872, ll.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 23, pl. 2, fig. 4.—WRIGHT, Ibis, 1874, 235 (Malta).—DRESSER, Ibis, 1875, 335 (n. w. Turkestan, winter).—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 125 (lower Petchora).—SEEBOHM, Ibis, 1879, 3 (Siberia, n. to 71°; habits); 1882, 214 (Sarepta, Astrakhan); Cat. Birds Brit. Mus., v, 1881, 189.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 6.—COUES, Check List, 2d ed., 1882, no. 4.—DIXON, Ibis, 1885, 80 (St. Kilda).—REID, Ibis, 1885, 242 (Morocco).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 760.—SCLATER (H. H.) and CARTER, Ibis, 1886, 46 (Iceland; habits).—PEARSON and BIDWELL, Ibis, 1894, 228 (Tromsö, Norway; descr. eggs).—PEARSON, Ibis, 1895, 242 (Iceland; habits); 1896, 207 (Lake Ukanskoe, Russian Lapland; descr. eggs).—POPHAM, Ibis, 1897, 91 (Yenesei R., Siberia; nesting habits).—COLLIER, Ibis, 1904, 491 (Raasay, Hebrides, migrant).—DAVIES, Ibis, 1905, 69 (upper Muonio R., Scandinavia; nesting habits, etc.).

Sylvia iliaca SAVI, Orn. Tosc., i, 1827, 215.

Merula iliaca SELBY, Brit. Orn., i, 1833, 165.

T[*urdus*] *iliacus* GRAY, Gen. Birds, i, 1847, 218.—CABANIS, Mus. Hein., i, 1850, 2 (Germany).—COUES, Key N. Am. Birds, 2d ed., 1884, 245; 5th ed., i, 1903, 251.—RIDGWAY, Man. N. Am. Birds, 1887, 576.

[*Turdus*] *iliacus* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 5.

[*Hylocichla*] *iliaca* SHARPE, Hand-list, iv, 1903, 143.

[*Turdus*] *mauvis* MÜLLER, Syst. Nat. Suppl., 1776, 141 (based on *Le Mauvis* Brisson, Orn., ii, 208).

Turdus illas PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 456 (new name for *T. iliacus* Linnæus).

Iliacus illas DES MURS, Traité d'Ool., 1860, 293.

Turdus betulorum BREHM, Vög. Deutschl., 1831, 386.

Turdus vinetorum BREHM, Vög. Deutschl., 1831, 386.

Turdus gracilis BREHM, Naumannia, 1855, 281.

Iliacus minor DES MURS, Traité d'Ool., 1860, 293.

Turdus musicus musicus (not *Turdus musicus* Linnæus) SCHALOW, Vögel der Arktis, 1904, 267 (Greenland).

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Genus IXOREUS Bonaparte.[a]

Ixoreus Bonaparte, Comptes Rendus, xxxviii, 3, note, Jan., 1854; Orn. Coll. Delattre, 1854, 26, footnote. (Type, *Turdus nævius* Gmelin.) (See Richmond, Proc. Biol. Soc. Wash., xv, 1902, 85.)

Hesperocichla Baird, Review Am. Birds, June, 1864, 12. (Type, *Turdus nævius* Gmelin.)

Medium-sized Turdidæ without distinct (if any) subterminal notch to maxillary tomium, nasal fossæ mostly occupied by dense feathering of frontal antiæ (almost concealing nostril), broad whitish subbasal band across inner webs of remiges, tawny superciliary stripe, and large tawny or ochraceous spots on greater and middle wing-coverts.

Bill much shorter than head, rather slender, decidedly compressed, much deeper than wide at frontal antiæ; exposed culmen much shorter than middle toe (without claw), straight basally, very gradually and not strongly decurved terminally; gonys much longer than mandibular rami (very nearly equal to distance from nostril to tip of maxilla), straight or very nearly so, its base somewhat prominent; maxillary tomium slightly concave, especially subterminally, where without distinct, if any, notch. Nostril small, longitudinally ovoid, mostly covered by the short dense feathering of latero-frontal antiæ, overhung by rather broad membrane. Rictal and decumbent postnasal bristles well developed though slender and weak; feathers of lores and chin with fine bristle-like tips. Wing rather long and pointed, the longest primaries exceeding longest secondaries by combined length of tarsus and about half the middle toe; outermost (tenth) primary shorter than primary coverts, about one-fourth as long as ninth, the latter equal to or longer than sixth, the eighth and seventh equal and longest; three primaries (eighth, seventh, and sixth) with outer web sinuated. Tail much less than three times as long as tarsus, slightly longer than distance from bend of wing to end of secondaries, even. Tarsus more than one-fourth as long as wing, much less than one-third as long as tail, the acrotarsium fused on both sides (except lower portion); middle toe (without claw) two-thirds as long as tarsus; lateral toes equal, both reaching (without claw) to slightly but decidedly beyond subterminal articulation of

[a] It is with extreme reluctance, and only after having given the matter most careful consideration, that I am able to concur in the adoption of *Ixoreus* Bonaparte for this genus. If we are to go entirely by the original printed record in such cases, ignoring all extraneous evidence, however clear and unimpeachable, as I believe is the only practicable method of attaining final stability of nomenclature, it really makes no difference whether Bonaparte wrongly identified a Tyrannine bird (*Myiotheretes rufiventris*) as *Turdus nævius* Gmelin so long as he plainly stated that the type of his new genus *Ixoreus* is the latter. (See Richmond, Proc. Biol. Soc. Wash., xv, 1902, 85, and Sclater, Ibis, 1903, 142.)

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middle toe; hallux slightly shorter than lateral toes; basal phalanx of middle toe adherent for slightly more than half its length to outer toe, for very little less to inner toe; claws normal, though rather slightly curved and blunt, that of the hallux much shorter than its digit.

Coloration.—Above slate color varied by a superciliary stripe and spots on wing-coverts of ochraceous or tawny; under parts largely ochraceous or tawny, the chest crossed by a band of black or dark slate color; adult female much duller in color, with band on chest obsolete (or brownish instead of black or slaty) and upper parts brownish; young essentially like adult female but chest and breast barred or squamated with grayish brown (no distinct streaks on upper parts).

Nidification.—Nest placed in trees or bushes, bulky, open above, composed externally of dry grass-stems, mosses, and lichens, slender twigs, etc., lined with finer materials of similar character; eggs pale greenish blue, rather sparingly speckled or spotted with brown.

Range.—Northwestern North America. (Monotypic.)

This very distinct genus is most nearly related to *Cichloselys* Bonaparte [a] of northeastern Asia but is quite distinct, the latter having the bill distinctly notched, the nostrils wholly exposed, the middle toe (without claw) nearly three-fourths as long as the tarsus, wing and tail relatively longer (the former four times, the latter slightly more than three times, as long as tarsus), and the ninth primary equal to or longer than the seventh, instead of much shorter. The two genera agree in the distinct "pattern" or broad whitish band across inner webs of remiges, the possession of a conspicuous superciliary stripe [b] (though this is indistinct in the female of *Cichloselys*) and marked difference of coloration between the sexes; but while the sexual difference of coloration in *Ixoreus* is manily one of degree that in *Cichloselys* is distinctly one of kind, there being few other members of the Turdidæ in which the coloration of the sexes is so radically different.[c]

[a] Type, by elimination, *Turdus sibiricus* Pallas. (See Stejneger, Proc. U. S. Nat. Mus., xv, 1892, 317, footnote.

[b] This, however, is pure white in *Cichloselys* in which the general coloration is plain blackish slate, approaching black on the head. (The female is plain olive-brown above, beneath transversely spotted with olive-brown on a white and buffy ground.)

[c] The only case that I am, without further examination of specimens, able to recall is that of *Grandala cælicolor*, in which the sexual difference in coloration is extreme.

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IXOREUS NÆVIUS (Gmelin).

VARIED THRUSH.

Adult male in spring and summer.—Above plain slate color, the feathers, especially those of pileum and back, sometimes (in certain lights) slightly darker centrally or mesially; wings (except lesser coverts) dusky, with slate or slate-gray edgings, the middle coverts with a large terminal spot (usually more or less triangular or guttate in form) of tawny, tawny-ochraceous, ochraceous, or ochraceous-buff, the greater coverts also broadly tipped with the same (mostly on outer web), the secondaries edged subterminally with a paler and duller tint of the same, the primaries (except two or three outermost) ochraceous-buff or cinnamon-buff on basal portion of outer web and edged with the same at point of subterminal sinuation, the outer web of secondaries also ochraceous-buff or tawny-ochraceous basally (concealed by greater coverts), the tertials often tipped with pale ochraceous, buffy, or whitish; two or three outermost rectrices with a white or whitish spot at tip of inner web (largest on the lateral rectrix); a conspicuous supra-auricular stripe of tawny-ochraceous or ochraceous-buff, extending from middle of upper eyelid (sometimes from above lores) to nape; loral, suborbital, and auricular regions uniform black, slate-black, or blackish slate; malar region, chin, throat, and breast uniform tawny, tawny-ochraceous, ochraceous, or ochraceous-buff, the chest crossed by a more or less broad (rarely interrupted) band of black, slate-black, or blackish slate, the feathers sometimes margined with a more slaty hue; sides and flanks similar in color to breast but paler, the feathers broadly margined with olivaceous slate-gray; abdomen, more or less extensively,[a] white; under tail-coverts brownish slate-gray basally, extensively white terminally, the white usually more or less strongly suffused with tawny or ochraceous; axillars and under wing-coverts white basally, broadly slate-gray terminally; inner webs of remiges crossed by a broad basal or sub-basal band of white or pale buffy; bill brownish black or dusky brown, the basal portion of mandible pale colored; iris brown; legs and feet pale yellowish brown (in dried skins).

Adult male in autumn and winter.—Similar to the spring and summer plumage, but usually with feathers of upper parts (especially on pileum and back) indistinctly margined with olive, and coloration in general averaging slightly deeper (especially when compared with late spring or midsummer specimens).

Adult female.—Much duller in coloration than the adult male. Upper parts varying from olivaceous slate-gray (nearly mouse gray)

[a] The white may be restricted to the extreme lower central portion of the abdomen (in very highly colored specimens) or may invade the breast and inner portion of the sides, the variation in the relative extent of the white and tawny on the under parts being considerable.

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to brownish olive (still browner on pileum), the markings on wings and tail as in the male; tawny color of under parts paler (varying from rather pale ochraceous-buff to ochraceous), the band across chest more or less indistinct and never (?) uniform blackish or slate color—usually with feathers dusky centrally (more or less concealed) margined with dull ochraceous or buffy grayish;[a] white of posterior under parts usually (?) relatively more extended than in male.

Young. -Much like adult female, but under parts more yellowish ochraceous, with feathers of breast and lower throat narrowly margined or tipped with olive or dusky (these markings sometimes indistinct), the jugular band sometimes uniform dull olive, oftener with feathers ochraceous centrally broadly margined with olive or dusky.[b]

Adult male. -Length (skins), 214–241 (226); wing, 119–132.5 (126.7); tail, 78.5–93.5 (87.4); exposed culmen, 18–23 (20.7); tarsus, 29.5–32.5 (31.4); middle toe, 21–23 (22.1).[c]

Adult female.—Length (skins), 200–242 (224); wing, 119–130.5 (124.6); tail, 83.5–90 (87.1); exposed culmen, 19–23 (21.4); tarsus, 30–33 (31.7); middle toe, 20–23.5 (22).[d]

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[a] Sometimes the band is nearly, rarely quite, obsolete.

[b] Owing to doubt as to the correct sexing of two specimens, I am not sure whether the sexes differ or not in first plumage. Were it not for these two specimens the remainder of the series examined (seven specimens) would indicate (so far as the specimens have sex determined) a decided sexual difference, the males having nearly the whole of the lower parts ochraceous and the jugular band indistinct, the females having the posterior half of the lower parts mostly white, and the jugular band more or less conspicuous.

[c] Twenty specimens.

[d] Seventeen specimens.

Specimens from the Pacific coast slope and interior districts compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from coast district	126.9	87.8	20.8	31.4	22.1
Ten adult males from interior (chiefly from Alaska)	126.4	87.4	20.7	31.4	22.1
FEMALES.					
Fourteen adult females, from coast district	124.9	87.2	21.4	31.9	22.2
Five adult females from interior of Alaska, etc	123.8	86.7	21.6	31.1	21.4

With a series of one hundred and forty specimens (sixty-seven adult males from the coast district and seven from the interior, forty-two adult females from coast and fourteen from interior localities, besides nine young representing both districts) I have been unable, after very careful comparison, to discover the slightest reason for recognizing two forms of this species. The color-characters upon which Mr. Grinnell's separation (Auk, xviii, 1901, 142–145) is based appear to be mainly if not wholly of an individual nature, and occur in different specimens from whatsoever locality they may have been taken.

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Western North America; breeding from northern California (Humboldt County) northward to the limit of spruce forests in northern Alaska (Kowak River),[a] wintering from Kadiak Island southward to southern California (as far as Colorado River), and occurring during migration in Montana (Cœur d'Alene Mountains) and straggling eastward to Kansas (Finney County), New Jersey (Hoboken), New York (Staten and Long islands), and Massachusetts (Ipswich).

[*Turdus*] *nævius* GMELIN, Syst. Nat., i, pt. ii, 1788, 817 (based on *Spotted Thrush* Latham, Synopsis Birds, ii, pt. 1, 27, and *Varied Thrush* Pennant, Arctic Zool., ii, 337, pl. 15).—LATHAM, Index Orn., i, 1790, 331.—GRAY, Hand-list, i, 1869, 258, no. 3758.—COUES, Key N. Am. Birds, 1872, 72.

Turdus nævius VIEILLOT, Ois. Am. Sept., ii, 1807, 10, pl. 66; Nouv. Dict. d'Hist. Nat., xx, 1818, 289.—KITTLITZ, Kupfert., iii, 1833, 21, pl. 25, fig. 1.—BONAPARTE, Geog. and Comp. List, 1838, 17; Consp. Av., i, 1850, 271.—AUDUBON, Orn. Biog., iv, 1838, 489; v, 1839, 284, pls. 369, 433; Synopsis, 1839, 89; Birds Am., oct. ed., iii, 1841, 22, pl. 143.—VIGORS, Zool. Voy. "Blossom," 1839, 17.—GAMBEL, Proc. Ac. Nat. Sci. Phila., iii, 1846, 113 (California); Journ. Ac. Nat. Sci. Phila., i, 1847, 42.—CABOT, Proc. Bost. Soc. N. H., iii, 1848, 17 (New Jersey).—LAWRENCE, Ann. Lyc. N. Y., v, 1852, 221 (New York); viii, 1866, 281 (Long Island, New York).—SCLATER, Proc. Zool. Soc. Lond., 1857, 4, in text (crit. as to systematic position); 1859, 331 (monogr.); Cat. Am. Birds, 1862, 4 (California).—NEWBERRY, Rep. Pacific R. R. Surv., x, pt. iv, 1857, 81 (Cascade Mts. and Willamette Valley, Oregon).—BAIRD, Cat. N. Am. Birds, 1859, no. 156; in Ives' Rep. Col. R., v, 1861, 5 (Colorado R., California); Review Am. Birds, 1864, 32.—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 45 (California, winter).—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 190 (Fort Tejon, California).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 172 (Port Townsend, Puget Sound, and Bellingham Bay, Washington; Astoria, Oregon; breeding?).—ALLEN, Proc. Essex Inst., v, 1864, 82 (New Jersey); Am. Nat., iii, 1869, 512, 513, 572 (Ipswich, Massachusetts, Dec., 1864); White's Geology of Iowa, ii, 1870, 419 (Iowa).—BLAKISTON, Ibis, 1863, 59 (Fort Franklin, fide Fauna Bor.-Am.).—LORD, Proc. Roy. Art. Inst. Woolw., iv, 1864, 114 (British Columbia).—BROWN, Ibis, 1868, 420 (Vancouver I.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 276 (Nulato R., breeding: Sitka; Kadiak; Cook Inlet; Admiralty Islands; habits).—TURNBULL, Birds E. Penn. and New Jersey, 1869, 52; Phila. ed., p. 41 (New Jersey).—COOPER, Am. Nat., iii, 1869, 31 (Cœur d'Alene Mts., Montana); Orn. Cal., 1870, 10.—DALL, Am. Nat., iv, 1870, 600 (Yukon Valley, Alaska).—MAYNARD, Naturalists' Guide, 1870, 89 (Ipswich, Massachusetts).—COUES, Check List, 1873, no. 2; 2d ed., 1882, no. 5; Birds Northwest, 1874, 1.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 29, pl. 2, fig. 2.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1876, 226 (Walkers Basin, s. California, Nov. 5); 1877, 13, 15 (Carson City, Nevada, spring).—HARTLAUB, Journ. für Orn., 1883, 268 (Chilcoot, Alaska).—SCHALOW, Journ. für Orn., 1891, 252 (Sitka).

T[*urdus*] *nævius* GRAY, Gen. Birds, i, 1847, 219.—COUES, Key N. Am. Birds, 2d ed., 1884, 245.

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[a] The eastern breeding limit is unascertained, but probably includes the spruce forests of the interior mountain districts, at least in British Columbia, possibly to northern Idaho and Montana.

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Turdus nævia TOWNSEND, Jour. Ac. Nat. Sci. Phila., viii, 1839, 153 (Columbia R.).

Turdus (Ixoreus) nævius BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 219.

Turdus (Hesperocichla) nævius COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 65 (Colorado R., above Fort Mojave); Birds Col. Val., 1878, 11.

Orpheus nævius RICHARDSON, Rep. sixth meet. Brit. Ass. Adv. Sci., v, 1837, 171.

Hesperocichla nævia RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 166; xvi, 1893, 665 (Kadiak); Nom. N. Am. Birds, 1881, no. 9.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 145 (Sitka, June).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 763.—BRYANT (W. E.), Bull. Cal. Ac. Sci., ii, 1887, 318 (Guadalupe I., 1 spec., Mar. 4).—TOWNSEND, Auk, iv, 1887, 13 (Kowak R., Alaska, breeding).—NEHRLING, Our Native Birds, etc., i, 1893, 34, pl. 1, fig. 3.—STONE, Birds E. Penn. and N. J., 1894, 151 (New Jersey, 1 spec.).—KELLOGG, Auk, xi, 1894, 260 (Finney Co., Kansas, Oct. 17, 1891).—MERRILL (J. C.), Auk, xv, 1898, 21 (Fort Sherman, Idaho, Mar., Apr.). GRINNELL (J.), Auk, xv, 1898, 130 (Sitka, breeding); Pub. ii, Pasadena Ac. Sci., 1898, 51, (Los Angeles Co., California, winter); Condor, ii, 1900, 5 (habits in summer; song; descr. nest and eggs).—BISHOP, North Am. Fauna, no. 19, 1900, 95 (Haines, Glacier, Dawson, Fort Yukon, etc., Alaska; descr. nest and eggs) OSGOOD, North Am. Fauna, no. 21, 1901, 50 (Queen Charlotte Islands). FISHER (W. K.), Condor iii, 1901, 92 (Lindsay Creek and Redwood Creek, Humboldt Co., California, breeding). WILLIAMS (J. J.), Condor, iii, 1901, 69 (habits in California).

H[esperocichla] nævia RIDGWAY, Man. N. Am. Birds, 1887, 578.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 251.

[*Hesperocichla*] *nævia* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 4 (California).—SHARPE, Hand-list, iv, 1903, 135.

Hesperocichla nævia nævia GRINNELL (J.), Auk, xviii, Apr., 1901, 142 (crit.); Pacific Coast Avifauna, no. 3, 1902, 74.

Geocichla nævia SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 176.—BROOKS, Ibis, 1895, 512 (Summit Lake, British Columbia; descr. nest and eggs).

Ixoreus nævius RICHMOND, Proc. Biol. Soc. Wash., xv, 1902, 85.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 331.—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 247 (Homer, Kenai Peninsula, Alaska). OSGOOD, North Am. Fauna, no. 24, 1904, 81 (Kakhtul R., Nushagak, and Aleknagik Lake, Alaska).—BROOKS, Auk, xxii, 1905, 214 (British Columbia; descr. nests and eggs).

Ixoreus nævius nævius ANDERSON and GRINNELL, Proc. Ac. Nat. Sci. Phila., Jan. 17, 1903, 14 (Siskiyou Mts., California, winter.

Turdus auroreus PALLAS, Zoogr. Rosso-Asiat. ii, 1826, 448 (Kadiak, Alaska; based on ? *Unalaschka Thrush* Pennant, Arct. Zool., ii, 338; Latham, ii, 23; see Cabanis, Journ. für Orn., 1872, 157).—SCHALOW, Journ. für Orn., 1891, 252 (Kadiak, Alaska).

Orpheus meruloides SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 187, pl. 38 (Fort Franklin, British Am.).

Mimus meruloides LESSON, Rev. Zool., iii, 1840, 273.

Hesperocichla nævia meruloides GRINNELL (J.), Auk, xviii, Apr., 1901, 143 (Kowak R., Alaska, etc.; crit.); Pacific Coast Avifauna, no. 3, 1902, 74.

Ixoreus nævius meruloides RICHMOND, Proc. Biol. Soc. Wash., xv, April 25, 1901, 85.—MCGREGOR, Condor, iv, 1902, 144 (Signal Cairn, Alaska).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 331.

[*Hesperocichla*] *meruloides* SHARPE, Hand-list, iv, 1903, 135.

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Genus RIDGWAYIA Stejneger.

Ridgwayia Stejneger, Proc. U. S. Nat. Mus., v, Feb. 13, 1883, 460. (Type, *Turdus pinicola* Sclater.)

Medium-sized Turdidæ (length about 200–230 mm.) with wing more than five times as long as tarsus, the latter shorter than middle toe with claw, and inner webs of remiges marked by a very broad basal band of white.

Bill much shorter than head, rather stout, its height at frontal antiæ equal to half the distance from nostril to tip of maxilla and quite equal to its width at same point; exposed culmen about equal to outer toe with claw, straight basally, then gradually and rather strongly decurved to the tip; gonys equal in length to mandibular rami, straight, ascending terminally; maxillary tomium nearly straight or faintly concave at or anterior to middle, distinctly notched subterminally. Nostril broadly oval, posteriorly in contact with latero-frontal feathering, margined above by narrow membrane. Rictal and decumbent post-nasal bristles well-developed; feathers of lores and chin with small bristle-like points. Wing long and pointed, the longest primaries exceeding longest secondaries by combined length of tarsus and middle toe (without claw); outermost (tenth) primary much shorter than primary coverts, less than one-fourth as long as ninth, the latter nearly equal to (sometimes longer than) sixth, the eighth and seventh equal and longest; three primaries (eighth, seventh, and sixth), with outer web sinuated. Tail a little less than two-thirds as long as wing (about equal to distance from bend to end of secondaries), slightly double-rounded. Tarsus short and stout, less than one-fifth as long as wing, less than one-third as long as tail, the acrotarsium fused on both sides; middle toe (without claw) more than three-fourths as long as tarsus; lateral toes decidedly unequal, the inner (without claw) reaching to or very slightly beyond subterminal articulation of middle toe, the outer slightly farther; hallux slightly shorter than inner toe but much stouter; basal phalanx of middle toe adherent for rather more than half its length to outer toe, for nearly half to inner toe; claws normal, that of the hallux much shorter than its digit.

Coloration.—General color brown, this more or less streaked with paler; wings and tail black, much varied with white; under parts of body white; sexes decidedly different, the male having the whole throat and chest deep sooty brown, the female with throat mostly whitish, the chest light grayish brown narrowly streaked with whitish, the pileum and middle line of back streaked with pale brownish. Young very different from adults, the pileum, back, etc., sooty blackish conspicuously streaked with buff, the under parts buff conspicuously streaked and squamated with black, especially on chest.

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Nidification.—(Unknown.)

Range.—Highlands of Mexico (alpine). (Monotypic.)

This exceedingly distinct genus, although formerly associated with *Turdus*, is not at all nearly related to the latter, but is even farther removed than *Ixoreus* and *Cichloselys;* but although its very short tarsi suggest relationship to *Sialia*, I do not think it is so nearly related to the latter as to the two monotypic genera above mentioned, with which it agrees in the conspicuous "pattern" on under side of the reimges and other characters not shared by *Sialia.*

RIDGWAYIA PINICOLA (Sclater).

AZTEC[a] THRUSH.

Adult male.—General color of upper parts dark sooty brown (between sepia and clove brown), the feathers of pileum, hindneck, and back, together with scapulars and smaller wing-coverts, with very narrow shaft-streaks of very pale brown or brownish white, those of the pileum, hindneck, and extreme upper back further varied by having the inner webs (in part at least) darker, their outer webs paler than the general color; longer and exterior upper tail-coverts white; tail black, the middle pair of rectrices tipped (more or less extensively) with pale gray, this passing into white at extreme tip;[b] remaining rectrices more broadly tipped with white (or pale gray passing into white terminally), the white more extensive on inner than on outer web and increasing in extent toward the exterior rectrix, the outer web of which is edged with white; outer webs of greater wing-coverts mostly pale brownish buffy or dull buffy white, the extreme basal portion (hidden by middle coverts) and terminal portion dusky brown; secondaries (except two innermost) black, broadly tipped with pale silvery gray, their outer webs edged with white, but this white edging interrupted toward the gray tip; primaries black, broadly tipped with pale silvery gray, extensively white basally (on both webs), the three longest with a white mark at sinuated portion of outer web; alula uniform brownish black; primary coverts black, very broadly tipped with silvery gray, the shafts black in the gray portion; an indistinct superciliary stripe of pale brown; sides of head, chin, throat, and chest deep sooty brown or sepia, the feathers with narrow paler shaft-streaks and sometimes more or less paler at tip; rest of under parts white, more or less tinged with buff, especially on under tail-coverts: a sooty patch on flanks, the breast and sides sometimes mottled or clouded with pale sooty; axillars and under wing-coverts white; bill dusky brown; iris brown?; legs and feet brownish or dull yellowish (in dried skins), the toes usually slightly

[a] The specific term would suggest Pine Thrush as an appropriate vernacular name; but Mr. Nelson informs me the species does not inhabit the pine belt.

[b] In some specimens the middle pair are black almost to the extremity.

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darker than tarsi; length (skins), 200–222 (213); wing, 127–135.5 (131.2); tail, 78–86.5 (81.9); exposed culmen, 18–20.5 (19.5); tarsus, 25–27 (26.2); middle toe, 19–21 (20.1).[a]

Adult female.—Wings and tail as in adult male, but gray tips to remiges less extensive and much duller gray; brown of upper parts lighter (the scapulars, smaller wing-coverts, and rump rather light sepia or dark broccoli brown); pale streaks of pileum, hindneck, and interscapulars much broader and more conspicuous, the superciliary stripe also more conspicuous (pale grayish buff or very pale wood brown); chin and upper throat pale dull buffy, usually more or less streaked with grayish brown; lower throat, chest, and sides of head and neck light grayish brown or broccoli brown, with paler shaft-streaks; rest of under parts as in the male, but brown flank-patch paler brown with still paler shaft-streaks; length (skins), 208–227 (217); wing, 124–135 (130.5); tail, 80–89 (83.6); exposed culmen, 18.5–21 (19.7); tarsus, 25–27 (26.1); middle toe, 19.5–21 (20.3).[a]

Young male.—Very different from adults of either sex. General color of upper parts sooty black, the pileum, hindneck, back, scapulars, and smaller wing-coverts sharply and conspicuously streaked with buffy,[b] the streaks broadest on back and scapulars and lateral portion of the pileum, those on the latter forming a rather conspicuous though broken superciliary stripe; rump and shorter (central) upper tail-coverts streaked (usually broadly) with cinnamon-rufous; longer and lateral upper tail-coverts white, more or less tinged with buff, their inner webs partly blackish; greater wing-coverts tipped with a large wedge-shaped spot of buff or ochraceous-buff, their outer webs narrowly edged with paler buff; remiges and rectrices as in the adult female, but the large whitish spots at tips of innermost secondaries tinged with buff, and white tips to rectrices less sharply defined; a broad blackish postocular stripe; lower portion of auricular region, suborbital and malar regions, and under parts buff, becoming whitish on center of abdomen, the feathers margined with black or dark sooty, these blackish margins broadest on chest, where they produce a conspicuously squamate effect.

Young female.—Similar to the young male, but streaks on pileum, back, etc., broader, more whitish, the general color above more sooty brown; cinnamon-rufous streaks on rump and middle upper tail-coverts narrower; otherwise, scarcely if at all different.

High mountains of central Mexico, in states of Vera Cruz (Jalapa; Orizaba; Moyoapam), Oaxaca, Puebla (Tezuitlan), Mexico, Hidalgo (Real del Monte), Michoacan (Mount Tancitaro), Durango (El Salto), and Chihuahua (Sierra Madre near Guadalupe Calvo).

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[a] Ten specimens.

[b] These streaks sometimes tinged with rusty.

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Turdus pinicola SCLATER, Proc. Zool. Soc. Lond., 1859, 334, 362 (pine forests above Jalapa, Vera Cruz, Mexico; coll. P. L. Sclater); 1860, 250 (Orizaba, Vera Cruz); Cat. Am. Birds, 1862, 6, pl. 1 (Jalapa).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (alpine reg. Orizaba).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 23 (Jalapa, Orizaba, and Moyoapam, Vera Cruz; Valley of Mexico; Oaxaca).

[*Turdus*] *pinicola* GRAY, Hand-list, i, 1869, 258, no. 3771.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.

T[*urdus*] *pinicola* SCLATER, Proc. Zool. Soc. Lond., 1864, 172 (near City of Mexico).

Geocichla pinicola SEEBOHM, Cat. Birds. Brit. Mus., v, 1881, 179.

Ridgwayia pinicola STEJNEGER, Proc. U. S. Nat. Mus., v, Feb. 13, 1883, 460.—RIDGWAY, Proc. U. S. Nat. Mus., ix, 1886, 131 (Teziutlan, Puebla; descr. female).

[*Ridgwayia*] *pinicola* SHARPE, Hand-list, iv, 1903, 184.

Genus SIALIA Swainson.

Sialia SWAINSON, Philos. Mag., new ser., i, 1827, 369; Zool. Journ., iii, 1827, 173. (Type, *S. wilsonii* SWAINSON, = *Motacilla sialis* Linnæus).

Sialis (not of Latreille, 1803) LAFRESNAYE, Rev. Zool., 1839, 162. (Type, *Motacilla sialis* Linnæus).

Scyrornis[a] GISTEL, Naturgesch. des Thierreichs für höhere Schulen, 1848, p. 8. (To replace *Sialia;* on grounds of purism?)

Small Turdidæ (length about 150–175 mm.) with long, pointed wings, small bill, short tarsi, and with more or less blue in the plumage.

Bill less than half as long as head, rather slender, compressed terminally but broad at base, its width at frontal antiæ slightly to decidedly more than its height at same point; exposed culmen shorter than outer toe with claw, straight or nearly so for about basal half (or else faintly depressed or concave just anterior to nasal fossæ), decurved terminally; gonys longer than mandibular rami, straight or very faintly convex, ascending terminally; maxillary tomium faintly concave subterminally, distinctly notched near tip of maxilla. Nostril broadly ovoid, largely covered by short, semierect feathering of frontal antiæ, overhung by rather broad membrane. Rictal and decumbent post-nasal bristles well developed; feathers of lores and chin with small bristle-like points. Wing long and pointed, the longest primaries exceeding longest secondaries by more than half as much again as length of tarsus, sometimes more than combined length of tarsus and middle toe with claw; outermost (tenth) primary very small, much shorter than primary coverts, not more (sometimes much less) than one-fifth as long as ninth, the latter longer than sixth, sometimes (in *S. mexicana* and *S. arctica*) longest (eighth and seventh longest in *S. sialis*); three primaries (eighth, seventh, and sixth) with outer web sinuated. Tail much shorter than wing, equal to distance from bend to end of secondaries (*S. mexicana* and *S. arctica*) or slight shorter (*S. sialis*), more than three (sometimes

[a] Σκυρός, gypsum, stucco; ὄρνις, bird. (Richmond.)

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nearly three-and-a-half) times as long as tarsus, distinctly (sometimes rather deeply) emarginate. Tarsus short, one-sixth to a little more than one-fifth as long as wing, the acrotarsium fused; middle toe (without claw) three-fourths as long as tarsus, or a little more; lateral toes unequal, the inner (without claw) reaching to subterminal articulation of middle toe, the outer slightly beyond; hallux equal to inner toe or very slightly shorter; basal phalanx of middle toe adherent for about half its length to outer toe, much less to inner toe; claws moderate in size, rather strongly curved, acute, that of the hallux much shorter than its digit.

Coloration.—Adult males rich blue (varying from greenish to purplish, with or without chestnut on back; under parts light greenish blue with white abdomen and under tail-coverts, chestnut or cinnamon with white abdomen and under tail-coverts, or blue with chestnut on breast; adult females much duller than males, grayish or grayish brown largely replacing the blue, except on remiges and rectrices; young conspicuously streaked above with pale buffy or whitish, the breast, etc., whitish, squamated with grayish, brownish, or dusky.

Nidification.— Nest in cavities of trees, stumps, or rocks, or about houses, composed of dried grass-stems, etc., open above; eggs (4 to 7) immaculate pale greenish blue (very rarely white).

Range.— Temperate North America and highlands of Mexico, Guatemala, and Honduras. (Three species.)

This beautiful genus of Turdidæ is most nearly related to the Himalayan genus *Grandala* Hodgson. Mr. Seebohm, indeed, considered[a] the two as congeneric; but on comparison I find them exceedingly distinct, *Grandala* having the wing excessively long, almost Hirundine, the longest primaries exceeding the secondaries by nearly half (more than two-fifths) the total length of the wing, the tarsus and toes relatively longer, the bill much more slender, the gonys scarcely, if at all, longer than the mandibular rami, the narrowly fusiform or elliptical nostril wholly exposed, no bristle-like points to feathers of frontal antiæ, and the rictal and decumbent post-nasal bristles much weaker. The adult male of *Grandala* is rich dark purplish blue, with black wings and tail, thus only distantly resembling the males of the species of *Sialia;* but the female is conspicuously streaked, and has a Gocichline "wing-pattern," and therefore very different from those of the latter genus, though somewhat resembling the young.

[a] Cat. Birds, Brit. Mus., v, 1881, 327.

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KEY TO SPECIES AND SUBSPECIES OF SIALIA.

a. Plumage without streaks. (Adults.)

b. Pileum and hindneck bright blue, like rump, etc. (Adult males.)

c. Under parts partly chestnut or cinnamomeous.

d. Throat cinnamomeous, like chest and sides. (*Sialia sialis.*)

e. Throat, chest, and sides deep vinaceous-rufous or cinnamon-chestnut; wing averaging 100.3, tail 63.6. (Eastern United States; Bermudas.) ..... **Sialia sialis sialis**, adult male (p. 142)

ee. Throat, chest, and sides light rufous-cinnamon; wings and tail longer.

f. Blue of upper parts lighter and greener (averaging cerulean or light cobalt); wing averaging 103.9, tail 66.9. (Mexican plateau, north to southern Arizona) ..... **Sialia sialis fulva**, adult male (p. 146)

ff. Blue of upper parts deeper and more violaceous (averaging ultramarine or french blue, as in *S. s. sialis*); wing averaging 105.5, tail 68.1. (Highlands of Guatemala and Honduras.) **Sialia sialis guatemalæ**, adult male (p. 147)

dd. Throat blue. (*Sialia mexicana.*)

e. Larger (wing averaging 109 or more, tail averaging more than 67).

f. Cinnamon-rufous of under parts more restricted, the center of breast (sometimes also median line of chest) blue; smaller (wing averaging less than 111, tail averaging less than 70).

g. Back entirely blue, or with hardly more than a trace of chestnut on each side of interscapular region; chestnut or cinnamon-rufous of chest usually interrupted in middle by extension of blue of throat to that of breast.

h. Bill smaller or more slender; blue of upper parts averaging more violaceous (smalt). (Northeastern portion of Mexican plateau.) **Sialia mexicana mexicana**, adult male (p. 148)

hh. Bill larger, stouter; blue of upper parts averaging lighter or less violaceous (ultramarine). (Mountains of northern Lower California, extreme southern California, and eastern slope of Sierra Nevada.) ..... **Sialia mexicana anabelæ**, adult male (p. 150)

gg. Back entirely, or mostly, chestnut; chestnut or cinnamon-rufous of chest not interrupted. (Rocky Mountains of United States, south of Montana, and Sierra Madre of northwestern Mexico.) **Sialia mexicana bairdi**, adult male (p. 152)

ff. Cinnamon-rufous of under parts more extensive, occupying whole of chest, breast, sides, and flanks; larger (wing averaging more than 116; tail averaging more than 71). (Southern portion of Mexican plateau.) **Sialia mexicana australis**, adult male (p. 154)

ee. Smaller (wing averaging 105.3, tail averaging 64.4). (Pacific coast district, from southern California to British Columbia and eastward to Montana) ..... **Sialia mexicana occidentalis**, adult male (p. 155)

cc. Under parts without chestnut or cinnamomeous (light blue, passing into white on abdomen, etc.) (Western North America, from northern Mexico to Yukon Territory and Great Slave Lake.) ... **Sialia arctica**, adult male (p. 156)

bb. Pileum and hindneck brownish gray, grayish brown, or dull grayish blue. (Adult females.)

c. Under parts partly cinnamomeous.

d. Throat cinnamomeous, like chest and sides. (*Sialia sialis.*)

e. Upper parts more bluish, the dorsal region, pileum, and hindneck more or less strongly suffused with blue, the back scarcely if at all browner than pileum.

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f. Smaller (wing averaging 97, tail 61). **Sialia sialis sialis**, adult female (p. 142)

ff. Larger (wing averaging 101.4; tail 64.3).

Sialia sialis guatemalæ, adult female (p. 147)

ee. Upper parts less bluish, the dorsal region, pileum, and hindneck hardly if at all tinged with blue, the back more or less distinctly browner than pileum..... **Sialia sialis fulva**, adult female (p. 146)

dd. Throat gray. (*Sialia mexicana*.)

e. Larger (wing averaging more than 104, tail averaging more than 63).

f. Back and scapulars dusky grayish brown or dull grayish blue, concolor with pileum; brown of chest and sides darker, more chestnut.

Sialia mexicana mexicana, adult female (p. 149)

ff. Back and scapulars brown, more or less strongly contrasted with the grayer or bluish color of pileum and hindneck, or else (*S. m. australis*, part) wing 108 or more.

g. Wing longer (averaging 110.6); brown of under parts more extensive, usually covering whole breast, as well as chest and sides.

Sialia mexicana australis, adult female (p. 154)

gg. Wing shorter (averaging less than 106); brown of under parts more restricted, not covering breast, except laterally.

h. Averaging slightly paler in color, with longer wing and shorter bill (wing averaging 105.4; exposed culmen averaging 12.1).

Sialia mexicana bairdi, adult female (p. 152)

hh. Averaging slightly darker, with shorter wing and longer bill; (wing averaging 104.9; exposed culmen, 12.7).

Sialia mexicana anabelæ, adult female (p. 150)

ee. Smaller (wing averaging 102.9; tail averaging 62.1).

Sialia mexicana occidentalis, adult female (p. 155)

cc. Under parts without any cinnamomeous (pale grayish brown or buffy gray, passing into white on abdomen, etc.)... **Sialia arctica**, adult female (p. 157)

aa. Plumage more or less streaked. (Young.)

b. Under parts streaked or squamated with deep brown or sooty; general color of upper parts darker grayish brown or sooty.

c. Throat white..... **Sialia sialis** and subspecies, young (p. 142)

cc. Throat grayish..... **Sialia mexicana** and subspecies, young (p. 149)

bb. Under parts streaked with pale brown or grayish brown; general color of upper parts much paler grayish brown..... **Sialia arctica**, young (p. 157)

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SIALIA SIALIS SIALIS (Linnæus).

BLUEBIRD.

Adult male in spring and summer.—Upper parts uniform bright blue, varying in hue from sevres blue[a] to smalt blue, the average hue being between ultramarine and smalt, the shafts of remiges and rectrices black, and tips of remiges (especially primaries) dusky; sides of head, including malar region (sometimes including also chin and sides of upper throat) lighter and grayer blue; throat, chest, breast, sides, and flanks, uniform dull cinnamon-rufous or cinnamon-chestnut; abdomen, anal region and under tail-coverts, white, the last with longer feathers tinged with pale grayish blue, the shorter (basal) ones with pale cinnamon-rufous; axillars and under wing-coverts pale grayish blue; bill, legs, and feet, black; iris, dark brown.

Adult male in autumn and winter.—Similar to the spring and summer plumage, but blue of upper parts slightly duller, more or less obscured on hindneck, back, and scapulars, by brownish tips to the feathers, and cinnamon-rufous of chest, etc., more purplish or vinaceous in hue.

Adult female.—Above bluish gray, more or less tinged with light grayish brown (especially in autumn and winter), passing into bright blue (cerulean to azure) on rump, upper tail-coverts, and tail; wings blue, the tertials and innermost greater coverts more or less distinctly edged with pale brownish gray or whitish, the outermost primary edged with white; anterior and lateral under parts dull rufous-cinnamon or cinnamon-brown (paler in summer, deeper in fresh autumn plumage), the chin and upper throat paler; abdomen, anal region, and under tail-coverts white.

Young male.—Pileum, hindneck, back, scapulars, rump, and lesser and middle wing-coverts sooty grayish brown or brownish slate tinged with sooty, the back and scapulars (sometimes rump also, but less distinctly) streaked with whitish; middle wing-coverts with a small terminal spot of whitish; greater wing-coverts, primaries, and rectrices bright blue (as in the adult male) but tertials broadly edged with brown and margined terminally with pale gray or grayish white; under parts white, the feathers of chest and sides edged or margined with brown (most heavily on chest), producing a conspicuous streaked or squamate appearance; a whitish orbital ring.

Young female.—Similar to the young male, but blue of wings and tail much duller, and dusky streaking or squamation of under parts heavier and more extended.

Adult male.—Length (skins), 148–173 (155); wing, 96.5–104.5 (100.1); tail, 59.5–68.5 (63.7); exposed culmen, 11–14 (12.3); tarsus, 19–21.5 (20.3); middle toe, 15–17.5 (16.2).[b]

[a] This light greenish blue (the characteristic color of *S. s. fulva* and *S. arctica*) is very exceptional, however.

[b] Fifty-one specimens.

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Adult female.—Length (skins), 139–168 (154); wing, 93–101.5 (98.1); tail, 56.5–66.5 (60.8); exposed culmen, 11–13.5 (12.3); tarsus, 18–21 (20); middle toe, 15–17.5 (16.3).[a]

United States and southern Canada east of Rocky Mountains; north to Nova Scotia, southern New Brunswick, southern Maine, Vermont, northern New York (Adirondacks), northern Ontario (Moose Factory, Muskoka, etc.), and Manitoba (Assiniboine River, Winnipeg, Portage la Prairie, Lake Manitoba, etc.), occasionally to northern New Brunswick, northern Maine (Houlton) and southern Quebec (Godbout); west to eastern base of Rocky Mountains, in Montana, Wyoming (Cheyenne) and Colorado (Fort Lyon, breeding, Fountain, Denver, Pueblo, etc.); breeding southward to southern Florida and along the Gulf coast to southern and west-central Texas (Kerr, Bexar, Concho, Harris, Valverde, and Hidalgo counties); Bermudas (resident); accidental in Cuba.

[*Motacilla*] *sialis* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 187 (based on *Blue Redbreast, Rubecula, dorso cæruleo*, Edwards, Nat. Hist. Birds, pl. 24; *Bluebird* Catesby, Nat. Hist. Carolinia, i, 47, pl. 47); ed. 12, i, 1766, 336.

Motacilla sialis LESSON, Traité d'Orn., 1831, 416.

[*Motacilla*] *scalis* (typographical error) GMELIN, Syst. Nat., i, 1788, 989.

Ficedula salis (typographical error) SCHLEFFER, Mus. Orn., 1789, 36.

[*Sylvia*] *sialis* LATHAM, Index Orn., ii, 1790, 522.

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[a] Forty-one specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from District of Columbia to New Hampshire	100.6	63.6	11.9	20	15.9
Seven adult males from South Carolina and Georgia	100.1	63.5	12.2	20.3	16.3
Ten adult males from Miami, Florida	99.6	63.5	13.2	20.8	16.8
Ten adult males from other parts of southern Florida	100.7	63.8	13.1	20.6	16.3
Ten adult males from Illinois and Texas	99.1	63.3	12	19.9	16
Four adult males from Bermudas	101.7	64.2	12.2	19.9	15.9
FEMALES.					
Ten adult from District of Columbia and Maryland	96.7	60.2	12	19.8	16.2
Six adult females from South Carolina and Georgia	96.	59.3	11.8	19.7	16.1
Seven adult females from Miami, Fla	97.5	60.9	13.1	20.5	16.9
Eight adult females from other parts of southern Florida	97.4	62.7	12.4	20.3	16.5
Nine adult females from Minnesota to Mississippi	96.5	60.4	12.3	19.6	15.9
One adult female from Bermudas	99.5	62.5	12	20	16.5

I am unable to verify, from examination of a much larger series of specimens than that indicated above, alleged color differences in Florida and Bermuda examples. Florida specimens have, as a rule, larger bills than others, the difference being sometimes conspicuous; but even were this character constant I should not be inclined to consider the Florida birds as different enough to constitute a satisfactory subspecies.

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Sylvia sialis VIEILLOT, Ois. Am. Sept., ii, 1807, 40, pls. 101, 102, 103.—WILSON, Am. Orn., i, 1808, 56, pl. 3, fig. 3.—JARDINE, ed. Wilson's Am. Orn., i, 1832, 55, pl. 3, fig. 3.—AUDUBON, Orn. Biog., ii, 1834, 84; v, 1839, 452, pl. 113.

Œnanthe sialis VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 417.

Saxicola sialis BONAPARTE, Am. Lyc. N. Y., ii, 1826, 89.

Ampelis sialis NUTTALL, Man. Orn. U. S. and Can., i, 1832, 444.

Sialia sialis HALDEMAN, Trego's Geog. Pennsylvania, 1843, 77 (see Am. Nat., iii, 1869, 159).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 222; Cat. N. Am. Birds, 1859, no. 158; Review Am. Birds, 1864, 62.—GUNDLACH, Journ. für Orn., 1861, 324 (Cuba); 1862, 177 (do.; crit.); 1872, 409 (Cuba); Repert. Fisico-Nat. Cuba, i, 1865, 230; Orn. Cubana, 1878, 61; ed. 1893, 54.—HAYDEN, Trans. Am. Philos. Soc., xii, 1862, 159 (upper Missouri).—VERRILL, Proc. Essex Inst., iii, 1862, 145 (Maine).—DRESSER, Ibis, 1865, 475 (Bandera Hills and San Antonio, Texas, in winter; a few breeding at latter place).—McILWRAITH, Proc. Essex Inst., v, 1866, 84 (Hamilton, Ontario).—BUTCHER, Proc. Ac. Nat. Sci. Phila., xx, 1868, 149 (Laredo, Texas).—FISH, Am. Nat., ii, 1868, 667 (dates of migr. coast Massachusetts).—COOPER, Am. Nat., iii, 1869, 32 (Montana).—TRIPPE, Proc. Essex Inst., vi, 1871, 115 (Minnesota).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 260 (e. Florida, winter); iii, 1872, 174 (Kansas, w. to Fort Hays).—HOLDEN, Proc. Bost. Soc. N. H., xv, 1872, 194 (near Fountain, Colorado; 1 spec.).—MAYNARD, Birds Florida, 1872, 23.—COUES, Check List, 1873, no. 16; 2d ed., 1882, no. 27; Birds Northwest, 1874, 13, excl. syn. part; Birds Col. Val., 1878, 77, part.—RIDGWAY, Bull. Essex Inst., v, 1873, 179 (Colorado); Nom. N. Am. Birds, 1881, no. 22; Orn. Illinois, i, 1889, 68.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 62, pl. 5, fig. 3; special ed., 1875, i, plate facing p. 63.—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 6 (Hidalgo, Texas, 1 pair, May 3).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 120 (Edinburgh, s. Texas, breeding).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 19 (descr. young).—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 34 (wintering in lower Hudson Valley, New York).—CORY, Auk, iii, 1886, 9 (Cuba); Birds West Ind., 1889, 23; Cat. West Ind. Birds, 1892, 122 (Cuba).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 45, part.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 320 (Toronto, Ontario, etc.).—MERRIAM, Bull. Nutt. Orn. Club, vi, 1881, 226 (Adirondacks, New York, breeding); vii, 1882, 234 (Godbout, Quebec, 1 pair breeding, July, 1880).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 7 (Harris Co., Texas, breeding); Our Native Birds, i, 1893, 75, pl. 5, figs. 5, 6.—BROWN (N. C.), Bull. Nutt. Orn. Club, vii, 1882, 34 (Boerne, s. w. Texas, winter).—CHAMBERLAIN, Bull. Nutt. Orn. Club, vii, 1882, 104 (St. John, New Brunswick, 1 spec., Mar., 1877; Milledgeville, New Brunswick, 1 spec., June, 1879; Rothesay, New Brunswick, 1 spec., Apr. 6, 1881).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 109 (Grand Falls, New Brunswick, common; Fort Fairfield, New Brunswick, rare; Houlton, Maine, 1 pair).—BICKNELL, Auk, i, 1884, 133 (song period).—BECKHAM, Auk, ii, 1885, 140 (Pueblo, Colorado, 1 spec., Apr. 25, 1883); Proc. U. S. Nat. Mus., x, 1888, 695 (San Antonio, Texas, winter).—SETON, Auk, iii, 1886, 328 (Winnipeg, Lake Manitoba, and Portage la Prairie, Manitoba).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 766.—THORNE, Auk, iii, 1886, 489 (Fort Lyon, Colorado, breeding).—COX, Auk, iv, 1887, 211 (Newcastle, New Brunswick, 3 specs., Apr. 1).—LLOYD, Auk, iv, 1887, 299 (Concho Co., w. Texas, resident, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 292 (dates of migr., etc.).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 635 (Manitoba, rare summer resid.); Auk, x, 1893, 50 (Assiniboine R., w. Manitoba, common).—SCOTT, Auk, ix, 1892, 214 (Caloosa-

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hatchie R., Florida, breeding).—ATTWATER, Auk, ix, 1892, 345 (San Antonio, Texas, rare summer resid.).—WHITE, Auk, x, 1893, 230 (Macinac I., Michigan, breeding).—PRENTISS, Auk, xiii, 1896, 238 (Bermudas).—SAUNDERS, Bull. Brit. Orn. Club, xii, 1901, 35 (Oundle, England, 1 spec., Dec. 6, 1901; probably escaped from captivity).—FLEMING, Auk, xviii, 1901, 45 (Muskoka, etc., n. Ontario, common).—BANGS and BRADLEE, Auk, xviii, 1901, 254 (Bermudas; crit.).—BOND, Auk, xix, 1902, 209 (Cheyenne, Wyoming, 2 specs., Nov. 14 and 24, 1901).—PREBLE, North Am. Fauna, no. 22, 1902, 131 (Moose Factory, Hudson Bay). KNIGHT, Bull. Univ. Wyom. Agr. Exp. Sta., no. 55, 1902, 158 (Cheyenne, Wyoming, several).—ALLEN (G. M.), Proc. Manchester Inst., iv, 1902, 186 (New Hampshire).—STOCKARD, Auk, xxii, 1905, 284 (Mississippi, breeding).

S[ialia] sialis COUES, Key N. Am. Birds, 2d ed., 1884, 257; 5th ed., i, 1903, 257.—RIDGWAY, Man. N. Am. Birds, 1887, 581.

[*Sialia*] *sialis* GUNDLACH, Journ. für Orn., 1861, 324 (Cuba).—COUES, Key N. Am. Birds, 1872, 76.—CORY, List Birds West Ind., 1885, 5.—HEINE and REICHENOW, Nom. Mus. Hein., 1890, 6.—SHARPE, Hand-list, iv, 1903, 183.

[*Sialia sialis*] var. *sialis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 62.

S[ialia] sialis sialis BANGS, Auk, xv, April, 1898, 182, in text.

Luscinia sialis GIEBEL, Reich. Nat. Vögel, 1860, 44.

Scialia scialis LE MOINE, Ois. Canada, 1861, 202.

Sialia wilsonii SWAINSON, Zool. Journ., iii, no. 10, Sept., 1827, 173.—PEABODY, Rep. Orn. Mass., 1839, 316.—JARDINE, Contr. Orn., 1849, 79 (Bermudas, resident).—HURDIS, Jardine's Contr. Orn., 1850, 5 (Bermudas, resident).—THOMPSON, Nat. Hist. Vermont, 1853, 85.—WOODHOUSE, in Rep. Sitgreaves' Expl. Zuñi and Col., 1853, 68 (Indian Territory; Texas).—BLAND, Ann. Rep. Smiths. Inst. for 1858 (1859), 287 (Bermudas).—WILLIS, Ann. Rep. Smiths. Inst. for 1858 (1859), 212 (Nova Scotia).—JONES, Naturalist in Bermuda, 1859, 28, 66.

Sialia wilsoni BONAPARTE, Geog. and Comp. List, 1838, 16.—AUDUBON, Synopsis, 1839, 84, Birds Am., oct. ed., ii, 1841, 171, pl. 134.—MARTENS, Journ. für Orn., 1859, 213 (Bermudas).—SCLATER, Cat. Am. Birds, 1862, 10, part (Macinac, Michigan, and in synonymy).

S[ialia] wilsoni CABANIS, Mus. Hein., i, 1850, 7.—MAXIMILIAN, Journ. für Orn., 1858, 120 (Pennsylvania, Indiana, etc.; descr.; habits).

Sialia wilsonia WAILES, Rep. Orn. Miss., 1854, 319.

Erythaca (*Sialia*) *wilsonii* SWAINSON, Fauna Bor.-Am., ii, 1831, 210.

S[ialia] arctica (not of Swainson) NELSON Bull. Essex Inst., viii, 1876, 95 (Illinois, opposite Dubuque, Iowa.[a])

Sialia sialis grata BANGS, Auk., xv, Apr., 1898, 182 (Miami, Florida; coll. Mus. Comp. Zool.).

[*Sialia*] *grata* SHARPE, Hand-list, iv, 1903, 183.

Sialia sialis bermudensis VERRILL (A. H.), Osprey, v, June, 1901, 84 (Bermudas; coll. ——?); Am. Journ. Sci., ser. 4, xii, 1901, 65.

[*Sialia*] *bermudensis* SHARPE, Hand-list, iv, 1903, 183.

Muscicapa aurea VIEILLOT, Nouv. Dict., xxi, 1818, 463 (based on Le Vaillant, Ois. d'Afrique, pl. 158 [b]); Tabl. Encycl. Méth., ii, 1822, 807.

Mu[scicapa] azurea STEPHENS, Gen. Zool., xiii, pl. 2, 1826, 116 (based on Le Vaillant, pl. 158, and "Celestial Flycatcher, Lath. Gen. Hist. vi, 201").

[a] I have examined the specimen upon which the above record was based, and it proves to be a somewhat discolored example of *S. sialis*, female.

[b] Identified by Sundevall as *Motacilla sialis* Linnæus.

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SIALIA SIALIS FULVA Brewster.

AZURE BLUEBIRD.

Similar to *S. s. sialis*, but ruddy brown of under parts much paler (between cinnamon and vinaceous-cinnamon, but nearer the former), much less strongly defined against white of abdomen; axillars and under wing-coverts pale gray or grayish white instead of grayish blue; blue of auricular and suborbital regions much duller; blue of upper parts greener (cerulean to cobalt, averaging nearer the former); wings and tail averaging longer (both absolutely and relatively).

Adult male.—Length (skins), 142–171 (159); wing, 98.5–109 (103.9); tail, 63–71.5 (66.9); exposed culmen, 11.5–14 (12.6); tarsus, 19–21 (20.2); middle toe, 14.5–17 (15.7).[a]

Adult female.—Length (skins), 149–163 (153); wing, 96–104.5 (99.6) tail, 59.5–67 (63); exposed culmen, 11.5–13.5 (12.7); tarsus, 19–21.5 (20.2); middle toe, 14.5–16.5 (15.6).[b]

Mexican plateau, in States of Vera Cruz (Cordová; Jalapa; Orizaba; Miradór; Cerro del Gallego; Jico), Oaxaca (La Parada; Juquila; Suchistepec; Cerro San Felipe), Puebla (San Martin Texmelucán; Huachinango), Mexico (Valley of Mexico), Hidalgo (Real del Monte), Michoacán (Patambán; Mount Tancítaro; Uruapám), Jalisco (La Laguna; Jácala), Sinaloa (Plomosas; Sierra de Choix), Sonora (Bavispe River), Chihuahua (Batópilas; Mina Abundancia), and Guanajuato (Moro León), and northward into southern Arizona (Huachuca and Santa Rita Mountains); southward in winter to Chiapas (Tenejapa, November 30), and northern Guatemala (Hacienda Chancól, January).

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[a] Twenty-seven specimens.

[b] Twelve specimens.

Specimens from eastern Mexico compare with those from western Mexico, Arizona, etc., as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Vera Cruz and Puebla	102.5	67.2	12.6	20.4	15.7
Ten adult males from Michoacan and Jalisco	104.4	66.7	12.6	20.3	15.8
Seven adult males from Chihuahua, Sonora, and southern Arizona	105.3	66.6	12.5	19.7	15.5
FEMALES.					
Four adult females from Vera Cruz	98.1	63.1	12.6	20.4	15.9
Five adult females from western Oaxaca, Michoacan, and Jalisco	100.1	63.3	13.1	20.4	15.6
Three adult females from Chihuahua	103.5	62.3	12.2	19.7	15.2

Apparently there is no difference in coloration,

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Sylvia sialis (not *Motacilla sialis* Linnæus) LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 2; Journ. für Orn., 1863, 57 (reprint).

Sialia sialis COUES, Birds Northwest, 1874, 13, part; Birds Col. Val., 1878, 77, part.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 45, part (Real del Monte; Cordova, Cerro del Gallego, Jalapa, and Mirador, Vera Cruz; Valley of Mexico; La Parada and Juquila, Oaxaca).—ALLEN, Bull. Am. Mus. N. H., v, 1893, 42 (Bavispe R., n. e. Sonora, Dec., Feb.).

Sialia wilsoni (not of Swainson) SCLATER, Proc. Zool. Soc. Lond., 1856, 293 (Cerro del Gallego, near Cordova, Vera Cruz); 1858, 297 (highlands of La Parada, Oaxaca); 1859, 362 (Jalapa, Vera Cruz), 371 (Juquila, Oaxaca); Cat. Am. Birds, 1862, 10, part (Orizaba, Vera Cruz).

[*Sialia*] *wilsoni* GRAY, Hand-list, i, 1869, 229, no. 3312, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4, part (Mexico).

Sialia azurea (not *Muscicapa azurea* Stephens[a]) BAIRD, Review Am. Birds, July, 1864, 62, part (Mirador, Vera Cruz, Mexico; coll. U. S. Nat. Mus.; ex Swainson, Philos. Mag., n. s., i, 1827, 369; nomen nudum!).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 544 (temp. reg. Vera Cruz).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 331, part (in synonymy only).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 133 (San Martin Texmelucan, Puebla, Dec., Jan.; Jalapa, Vera Cruz, Aug.).—RIDGWAY, Proc. U. S. Nat. Mus., ix, 1886, 133 (crit.).

[*Sialia*] *azurea* SHARPE, Hand-list, iv, 1903, 183.

[*Sialia sialis*] var. *azurea* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 62, part (e. Mexico).

Sialia sialis azurea BREWSTER, Auk, ii, Jan., 1885, 85 (Santa Rita Mts., Arizona, June).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 766*a*.—RIDGWAY, Man. N. Am. Birds, 1887, 594.—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 22 (Jalapa).

S[*ialia*] *sialis azurea* RIDGWAY, Man. N. Am. Birds, 1887, 581.

S[*ialia*] *s*[*ialis*] *azurea* COUES, Key N. Am. Birds, 5th ed., i, 1903, 257.

[*Sialia sialis*] *fulva* BREWSTER, Auk, ii, Jan., 1885, 85 (Santa Rita Mts., Arizona; coll. W. Brewster; name proposed for Arizona bird if distinct from true *azurea*).

SIALIA SIALIS GUATEMALÆ Ridgway.

GUATEMALA BLUEBIRD.

Similar to *S. s. fulva* in coloration of under parts and in longer wing and tail, but like *S. s. sialis* in coloration of upper parts; slightly larger than *S. s. fulva*.

Adult male.—Length (skins), 148–168 (158); wing, 101.5–110.5 (105.5); tail, 65–72.5 (68.1); exposed culmen, 12–13 (12.6); tarsus, 20–21.5 (20.9); middle toe, 15–16.5 (16.1)[b].

Adult female.—Length (skins), 150–157.5 (155); wing, 99.5–103.5 (101.4); tail, 62–66.5 (64.3); exposed culmen, 11–13 (12.4); tarsus, 20–21.5 (21.2); middle toe, 16–16.5 (16.3).[c]

Highlands of Chiapas (San Cristobál), Guatemala (Cobán; Dueñas; Tactic; Godines; San Gerónimo; Quezaltenango; ridge above Totonicapám; Coban to Chisec; Hacienda Chancól; Capotillo; Zacatapequez; Volcan de Santa Maria), and Honduras (pine region, at 5,000 feet altitude; Siquetepeque; Segovia River).

[a] Said to be *S. sialis sialis*. [b] Fourteen specimens. [c] Seven specimens.

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S[ialia] albiventris "Sclater" BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 922, in text (Guatemala; nomen nudum!)

Sialia wilsoni (not of Swainson) SCLATER and SALVIN, Ibis, 1859, 8 (highlands of Guatemala; crit).—SALVIN and SCLATER, Ibis, 1860, 29 (Coban and Dueñas, Guatemala, resident).—TAYLOR, Ibis, 1860, 15 (Siquatepeque, Honduras), 110 (highlands of Honduras, pine region, alt. 5,000 ft.).—OWEN, Ibis, 1861, 60 (Guatemala; descr. nest and eggs).—SCLATER, Cat. Am. Birds, 1862, 10, part (Guatemala).—BOUCARD, Liste Ois. Guat., 1878, 28.

[*Sialia*] *wilsoni* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4, part (Guatemala).

Sialia sialis (not *Motacilla sialis* Linnæus) COUES, Birds Northwest, 1874, 13, part; Birds Col. Val., 1878, 77, part.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 45, part (Quezaltenango, ridge above Totonicapám, Godines, Dueñas, San Gerónimo, Tactíc, and Cobán, Guatemala; Honduras).

Sialia azurea BAIRD, Review Am. Birds, 1864, 62, part (Tactic, Vera Paz, Guatemala).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 331, part (Guatemala; all of text except synonymy, part).

[*Sialia sialis*] var. *azurea* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 62, part.

Sialia sialis guatemalæ RIDGWAY, Proc. U. S. Nat. Mus., v, June 5, 1882, 13 (Guatemala; coll. U. S. Nat. Mus.).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 435 (reprint of orig. descr.).—NELSON, Auk, xv, 1898, 161 (highlands of Chiapas).

S[ialia] sialis guatemalæ RIDGWAY, Man. N. Am. Birds, 1887, 581.

Sialia sialis guatemalæ? RIDGWAY, Proc. U. S. Nat. Mus., x, 1888, 584 (Segovia R., Honduras; crit).

[*Sialia*] *guatemalæ* SHARPE, Hand-list, iv, 1903, 183.

SIALIA MEXICANA MEXICANA Swainson.

MEXICAN BLUEBIRD.

Adult male in spring and summer.—Above plain rich smalt blue, brighter and sometimes less violaceous (more ultramarine) blue on rump, upper tail-coverts, tail, and outer webs of primaries;[a] shafts of remiges and rectrices, sometimes also of scapulars and interscapulars, back, the upper tail-coverts sometimes with mesial streaks of black; sides of head, chin, throat, upper central (usually also whole median) portion of chest, and breast, uniform blue, slightly paler and duller than color of upper parts, the blue gradually fading on abdomen, and flanks into pale gray; sides of chest and breast and anterior portion of sides chestnut, this sometimes[b] extended, more or less broadly, across chest, connecting the two lateral areas, sometimes extending along sides to flanks; under tail-coverts campanula blue, edged basally with pale gray; axillars and under wing-coverts darker campanula blue; bill black; iris dark brown; legs and feet black.

[a] In only one among ten specimens is there any chestnut on the dorsal region, this having only the lateral anterior portions of the interscapular area slightly intermixed with chestnut.

[b] In three out of ten specimens, but the connecting band narrow (not exceeding 10 mm.) in all.

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Adult male in autumn and winter.—Similar to the spring and summer plumage, but the blue of pileum and dorsal region slightly obscured by narrow brownish tips to the feathers, and that of chest and breast by pale grayish brown tips.

Immature male (in first winter?).—Similar to the adult male in winter plumage, but the blue lighter and less violaceous and (except on rump, upper tail-coverts, rectrices, and remiges) duller, the feathers of pileum and dorsal region more broadly tipped with grayish brown; chestnut of under parts rather lighter, the feathers with paler tips.

Adult female in spring and summer.—Pileum, hindneck, back, and scapulars plain grayish brown or dark brownish gray, sometimes slightly tinged with blue; rump and lesser wing-coverts dull blue, the former rather brighter, passing into bright blue (azure or cobalt) on upper tail-coverts and tail; middle and greater wing-coverts and tertials dusky grayish brown, edged with paler brownish gray or bluish; secondaries (except tertials) dull bluish, the primaries lighter and brighter blue narrowly edged with whitish, the outermost broadly edged with white; sides of head, throat, median portion of upper chest, and median portion of breast light brownish gray or grayish brown (sometimes faintly tinged with blue), passing into paler brownish gray or dull grayish or brownish white on chin; sides of chest and breast and more or less of sides dull cinnamon-rufous or chestnut-cinnamon; abdomen and flanks pale grayish brown or brownish gray; under tail-coverts pale dull grayish blue, edged with pale brownish gray, usually with a dusky mesial streak or shaft-streak; axillars and under wing-coverts dull grayish blue or bluish gray; bill, iris, and feet as in male.

Adult female in autumn and winter.—Similar to the spring and summer plumage, but brighter in color, the pileum and dorsal region decidedly bluish, and ruddy brown of under parts more chestnut.

Young male.—Pileum, hindneck, back, and scapulars plain deep sooty gray, the dorsal region sometimes more sooty brownish; rump, upper tail-coverts, and lesser and middle wing-coverts plain dull slate color; chin pale gray or grayish white; throat and sides of head and neck plain brownish gray or sooty gray, slightly paler than color of pileum; chest, sides of breast, and more or less of sides dark sooty brown or warm-sepia, more or less streaked with whitish; abdomen light gray, paler centrally; under tail-coverts barred or transversely spotted with grayish white and sooty gray; greater wing-coverts, remiges, and rectrices as in adult females, but the blue brighter (more ultramarine), and tertials margined with pale grayish brown.

Young female.—Similar to the young male, but color of pileum and dorsal region lighter and more brownish, the interscapular area streaked with white; general color of under parts paler, the chest, breast, and sides much more broadly streaked with white; under tail-coverts pale grayish with paler mesial streaks, but without darker

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bars or transverse spots; blue of remiges and rectrices duller, more greenish.

Adult male.—Length (skins), 152–168 (162); wing, 103–118.5 (109.6); tail, 65–71.5 (67.7); exposed culmen, 12–13.5 (12.9); tarsus, 20–21.5 (20.7); middle toe, 15–16 (15.2).[a]

Adult female.—Length (skins), 151–161 (156); wing, 102–107.5 (104.5); tail, 59–66.5 (63.2); exposed culmen, 12–13.5 (12.6); tarsus, 20–21.5 (21); middle toe, 14.5–16 (15.3).[b]

Northeastern portion of Mexican plateau, in States of Nuevo Leon (Doctor Arroyo), Coahuila (Saltillo; Carneros; Sierra Guadalupe), Tamaulipas (Miquihuana), San Luis Potosí (Charcas; Villár), and northern Vera Cruz (Cofre de Perote).

Sialia mexicana SWAINSON, Fauna Bor.-Am., ii, 1831, 202, footnote (table-land of Mexico).—BONAPARTE, Consp. Av., i, 1850, 298, part.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 223, part (in synonymy); Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 9, part (Saltillo, Coahuila); Review Am. Birds, 1864, 63 (do.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 65, part (in synonymy).—COUES, Birds Northwest, 1874, 14, part (in synonymy); Birds Col. Val., 1878, 80 (do.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 47, part.—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 331.—RIDGWAY, Auk, xi, 1894, 145, part (monogr.; Cofre de Perote, Vera Cruz; Villár and Charcas, San Luis Potosí); Man. N. Am. Birds, 2d ed., 1896, 612, part.—JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 775 (near Charcas, San Luis Potosí.)

[*Sialia*] *mexicana* GRAY, Hand-list, i, 1869, 230, no. 3313, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4, part.—HEINE and REICHENOW, Nom. Mus. Hein., 1890, 6.—SHARPE, Hand-list, iv, 1903, 183, part.

SIALIA MEXICANA ANABELÆ Anthony.

SAN PEDRO BLUEBIRD.

Similar to *S. m. mexicana*, but with bill larger and stouter; blue of upper parts averaging less violaceous (more ultramarine), back more often mixed with chestnut laterally;[c] adult female with back and scapulars grayish brown, forming a definite dorsal patch, distinctly defined against the brownish gray or dull grayish blue of pileum and hindneck, and, with the grayish brown or brownish gray of throat, breast, etc., paler than in *S. m. mexicana*.

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[a] Ten specimens.

[b] Eight specimens.

[c] A series of forty-three adult males from the San Pedro Martir Mountains exhibits the following variation in coloration of the back and under parts:

With no chestnut whatever on back or scapulars	21
With the back chiefly blue	18
With the back about equally blue and chestnut	4
With the chestnut of the breast divided	30
With the chestnut of the breast continuous anteriorly	11
Not belonging strictly to either category	2

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Adult male.—Length (skins), 147–161 (154); wing 104–113.8 (109); tail, 67–70.5 (69.4); exposed culmen, 12.5–13.5 (13); tarsus, 19–21.5 (20.2); middle toe, 14–14.5 (14.4).[a]

Adult female.—Length (skins), 149–155 (152); wing, 101.6–108.4 (104.9); tail, 62.2–68.6 (66.5); exposed culmen, 12.5–13 (12.7); tarsus, 19.5; middle toe, 14.5–16 (15.2).[b]

San Pedro Martír Mountains, northern Lower California, and northward to mountains of San Diego and southern Los Angeles counties, California, and along the eastern slope of the Sierra Nevada as far as Mount Lassen.[c]

Sialia mexicana (not of Swainson) BAIRD, Review Am. Birds, 1864, 63, part (San Diego, California).—RIDGWAY, Bull. Essex Inst., v, 1873, 189 (c. base Sierra Nevada; crit.); vii, 1875, 12 (Carson, Nevada, resident); Orn. 40th Parallel, 1877, 402 (Carson, valley of Carson R., and Big Bend of Truckee R., Nevada, resident).

[a] Four specimens, the wing-measurement representing extremes and average of forty-one specimens.

[b] Two specimens, the wing and tail measurements representing extremes and averages of eighteen specimens.

[c] California specimens are not typical of this form, but are much nearer to it than to *S. m. occidentalis*, from which they differ in larger size, more restricted areas of chestnut (though this character varies greatly in both forms), and, on the average, decidedly richer or more violaceous hue of the blue. Twelve adult males, taken during the breeding season, in the Laguna Mountains, San Diego County, and one from Nachoguero Valley, Lower California (near the boundary line), all have more or less of chestnut on the back and that of the under parts extends uninterruptedly across the chest, but otherwise are identical in coloration with typical *S. m. anabelæ* from the San Pedro Martir Mountains and are equally large. An adult male from Alhambra, Los Angeles County, and several from the eastern slope of the Sierra Nevada, are in all respects identical in coloration with San Pedro Martir examples, even that from Mount Lassen, at the northern end of the Sierra range, having a mere trace of chestnut on sides of back and the chestnut of under parts either interrupted by blue in middle of chest or else the two lateral areas barely confluent.

Average measurements of series from the San Pedro Martir Mountains, San Diego and Los Angeles counties, and the east slope of the Sierra Nevada, together with those of *S. m. occidentalis*, are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four (wing of forty-one) adult males from San Pedro Martir Mountains	109	69.4	13	20.2	15.2
Ten adult males from San Diego County, etc	111.7	70.4	12.7	20.7	15.5
Five adult males from eastern slope of Sierra Nevada	110.7	68.5	12.6	21.1	15.6
Ten adult males of *S. m. occidentalis*	105.3	64.1	12.2	20.1	15.1
FEMALES.					
Two (wing and tail of eighteen) adult females from San Pedro Martir Mountains	104.9	66.5	12.7	19.5	15.2
Eight adult females from San Diego County	106.8	64.7	12.6	21.1	14.9
Ten adult females of *S. m. occidentalis*	102.9	62.1	12.6	20.6	15.1

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Sialia mexicana anabelæ ANTHONY, Proc. Cal. Ac. Sci., 2d ser., ii, Oct., 1889, 79 (San Pedro Martir Mts., Lower California; coll. A. W. Anthony); Zoe, iv, no. 3, 1893, 247, in text under *S. mexicana*.—RIDGWAY, Auk, xi, 1894, 159 (monogr.); Man. N. Am. Birds, 2d ed., 1896, 613.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xii, 1895, 166; Check List, 2d ed., 1895, no. 767*b*.

S[ialia] m[exicana] anabelæ COUES, Key N. Am. Birds, 5th ed., i, 1903, 258.

[*Sialia*] *anabelæ* SHARPE, Hand-list, iv, 1903, 184.

SIALIA MEXICANA BAIRDI Ridgway.

CHESTNUT-BACKED BLUEBIRD.

Similar to *S. m. occidentalis*, but adult male with whole back and scapulars uniform chestnut, producing a large and conspicuous dorsal patch; cinnamon-rufous of under parts more extended, always extending broadly across chest, sometimes covering whole breast; adult female with upper parts browner than in *S. m. occidentalis*, the back and scapulars hair brown to between sepia and prouts brown, usually in strong and abrupt contrast with the mouse gray or hair brown of pileum and hindneck; young much darker and browner than those of *S. m. occidentalis* or *S. m. anabelæ*, with under parts more heavily streaked or squamated and the streaked areas more or less strongly suffused with pale fulvous or rusty brownish. Decidedly larger than *S. m. occidentalis*, with smaller bill.

Adult male.—Length (skins), 149–171 (161); wing, 105–117 (110.7); tail, 63.5–71 (67.9); exposed culmen, 11–13 (12); tarsus, 19–21.5 (20.2); middle toe, 14–16 (14.9).[a]

Adult female.—Length (skins), 141–171 (154); wing, 101.5–109.5 (105.4); tail, 58–68 (63.5); exposed culmen, 11–13 (12.1); tarsus, 18.5–20.5 (19.5); middle toe, 13.5–15 (14.1).[b]

[a] Twenty-one specimens.

[b] Eighteen specimens.

Specimens from the United States compare in average measurements with breeding examples from northwestern Mexico as follows: The two series are essentially alike in color, but the adult males from Mexico all have the whole dorsal region "solid" chestnut, or rufous-chestnut, and the females are slightly darker in general coloration. In short, the form reaches its most perfect development, with characters more accentuated and stable, in northwestern Mexico.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from United States	109.7	69	12	20.1	14.9
Ten adult males (mostly breeding), from northwestern Mexico	111.7	66.9	12	20.3	14.9
FEMALES.					
Ten adult females from United States	105.5	64.5	12.1	19.5	14.1
Eight adult females from northwestern Mexico	105.3	62.2	12.2	19.4	14.1

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Rocky Mountain district of United States and Sierra Madre of northwestern Mexico; breeding from Colorado to New Mexico, western Texas (Davis Mountains), and Arizona (west to San Francisco Mountains), and southward through States of Chihuahua[a] (Colonia Garcia; Pinos Altos), and Durango (El Salto), northwestern Mexico; during migration southwestward to southern California (Tulare, Kern, San Bernardino, San Diego, Riverside, Los Angeles,[b] and Santa Clara counties), and southern Utah (Kanab) and Nevada (Charleston Peak), southward to southern Sonora (Alamos, January to March) and Zacatecas (Valparaiso Mountains, December), eastward to western Texas (Concho and Kendall counties), accidentally to Iowa and Minnesota.

Sialia occidentalis (not of Townsend) WOODHOUSE, Rep. Sitgreaves' Expl. Zuñi, and Col. R., 1853, 68, part (New Mexico).—HENRY, Proc. Ac. Nat. Sci. Phila. vii, 1855, 310 (New Mexico).—KENNERLY, Rep. Pacific R. R. Surv., iv, 1856, 10 (75 m. w. Albuquerque, New Mexico), 11 (Pueblo Creek and Camp 110, New Mexico).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 332, part.

Sialia mexicana occidentalis RIDGWAY, Auk, xi, Apr., 1894, 154, part (Colorado; New Mexico; Arizona; western Texas; Chihuahua; Sonora; Sinaloa).

Sialia mexicana (not of Swainson) BAIRD, Rep. Ives' Colorado Exped., 1857-58, pt. v, 5 (Fort Yuma, California); Rep. Pacific R. R. Surv., ix, 1858, 223, part (localities in New Mexico); Cat. N. Am. Birds, 1859, no. 159, part; Rep. U. S. and Mex. Bound. Surv., ii, pt. 2, 1859, 9, part (Gila R., Arizona); Review Am. Birds, 1864, 63, part (Fort Fillmore, New Mexico).—KENNERLY, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 24 (Fort Conrad, New Mexico; Rio Grande to Colorado R.).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 106 (New Mexico).—XANTUS, Proc. Ac. Nat. Sci. Phila., 1859, 190, part (Fort Tejon, California).—COUES, Ibis, 1865, 163, in text (Fort Whipple, Arizona); Proc. Ac. Nat. Sci. Phila., xviii, 1866, 66 (Fort Whipple); Check List, 1873, no. 17, part; 2d ed., 1882, no. 28, part; Birds Northwest, 1874, 14, part; Birds Col. Val., 1878, 80, part.—COOPER, Orn. Cal., 1870, 28, part; Proc. Cal. Ac. Sci., 1870, 75 (Colorado R.).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 174 (near Denver, Colorado).—AIKEN, Proc. Bost. Soc. N. H., xv, 1872, 194 (Colorado).—YARROW and HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1872 (1874), 7 (Fish Springs, Utah).—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1873 (1874), 98 (Inscription Rock and Gila R., New Mexico); Zool. Exp. W. 100th Merid., 1875, 161 (localities in Colorado, New Mexico, and Arizona).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 65, part.—(?) LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 267, part (Mazatlan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 47, part.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 23, part.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 76 (Chiricahua Mts., Arizona).—BROWN (N. C.), Auk, i, 1884, 121 (Kendall Co., s. w. Texas, Jan.).—SCOTT, Auk, ii, 1885, 349 (Santa Catalina Mts., Arizona, breeding); v, 1888, 167 (do.).—BECKHAM, Auk, iv, 1887, 125 (Pueblo Co., Colorado, Oct., Nov.).—LLOYD, Auk, iv, 1887, 299 (Concho Co., w. Texas, winter).—COOKE, Bird Migr. Miss. Val., 1888, 294 (Concho Co. and Boerne, w. Texas, winter; Minnesota and Iowa, accidental).—MEARNS, Auk, vi, 1889,

[a] Probably also Sonora, though no breeding specimens from that State have been seen by me.

[b] One specimen examined from Berryessa.

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224 (Mogollon Mts., Arizona, breeding); vii, 1890, 264 (Mogollon Mts.; summer res. from lower pine belt to spruce belt).—Lowe, Auk, xi, 1894, 270 (Wet Mts., Colorado, breeding up to 9,500 ft.).

[*Sialia*] *mexicana* Coues, Key N. Am. Birds, 1872, 76, part.—Sclater and Salvin, Nom. Av. Neotr., 1873, 4, part.

S[*ialia*] *mexicana* Coues, Key N. Am. Birds, 2d ed., 1884, 258, part.—Ridgway, Man. N. Am. Birds, 1887, 581, part.

S[*ialia*] *m*[*exicana*] *bairdi* Ridgway, Auk, xi, Apr., 1894, 157 (Camp 110, "New Mexico"; i. e., Arizona; coll. U. S. Nat. Mus.).—Coues, Key N. Am. Birds, 5th ed., i, 1903, 258.

Sialia mexicana bairdi American Ornithologists' Union Committee, Auk, xii, 1895, 166; Check List, 2d ed., 1895, no. 767*a*.—Ridgway, Man. N. Am. Birds, 2d ed., 1896, 612.—Mitchell, Auk, xv, 1898, 311 (San Miguel Co., New Mexico, breeding up to nearly 10,000 ft.).—Knight, Bull. Univ. Wyom. Agric. Ex. Sta., no. 55, 1902, 158 (Sweetwater R., Wyoming, 1 spec.).—Swarth, Pacific Coast Avifauna, no. 4, 1904, 65 (Huachuca Mts., Arizona, resident; crit.).—Bailey (Florence M.), Auk, xxi, 1904, 363 (Upper Pecos, New Mexico up to 10,200 ft.).

[*Sialia*] *bairdi* Sharpe, Hand-List, iv, 1903, 184.

SIALIA MEXICANA AUSTRALIS Nelson.

NELSON'S BLUEBIRD.

Similar to *S. m. bairdi* but still larger,[a] and with the back mostly (sometimes entirely) blue, the chestnut confined to a more or less restricted patch on each side of the interscapular area, and cinnamon-rufous of under parts more extended and slightly paler; adult female much bluer above than that of either *S. m. bairdi* or *S. m. mexicana*, the pileum and hindneck being distinctly grayish blue, the rump, upper tail-coverts, and tail ultramarine or French blue.

Adult male.—Length (skins), 143–175 (162); wing, 109–122 (116.1); tail, 65–77 (71.1); exposed culmen, 12–13 (12.5); tarsus, 19.5–22.5 (21.5); middle toe, 14–16 (15).[b]

Adult female.—Length (skins), 156–164 (161); wing, 108.5–114 (110.6); exposed culmen, 11.5–13 (12.4); tarsus, 19.5–22 (20.9); middle toe, 13.5–15.5 (14.6).[c]

Southern portion of Mexican plateau, in States of Vera Cruz (Jalapa,[a] Cordová[a], Orizaba, Las Vigas), Puebla (Mount Orizaba) Mexico (Mount Popocatapetl), Morelos (Huitzilác), and Michoacán (Mount Tancítaro; Patambán).

(?) *Sialia mexicana* (not of Swainson?) Sclater, Proc. Zool. Soc. Lond., 1856, 293 (Cordová,[d] Vera Cruz); 1859, 362 (Jalapa,[d] Vera Cruz); Cat. Am. Birds, 1862, 11, part (Jalapa).[d]

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[a] The largest of all the forms of this species.

[b] Eleven specimens.

[c] Seven specimens.

[d] These localities are considered very doubtful by Professor Sumichrast, as well as by Messrs. Salvin and Godman, according to whom the specimens so labeled were almost certainly taken at much higher altitudes. (See Biol. Centr.-Am., Aves, i, 48.)

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Sialia mexicana (not of Swainson) SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 544 (alpine region of Mount Popocatapetl, Mexico).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 47, part ("Jalapa"?; Popocatapetl).—SEEBOHM, Cat. Birds Brit. Mus., v. 1881, 331, part (in synonymy).—RIDGWAY, Auk, xi, 1894, 145, part (Mount Orizaba, Puebla; Mount Popocatapetl; monogr.); Man. N. Am. Birds, 2d ed., 1896, 612, part.—COX, Auk, xii, 1895, 359 (Mount Orizaba, 14,000 ft.).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 38 (Las Vigas, Vera Cruz, 8,000 ft., breeding).

[*Sialia*] *mexicana* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4, part.—SHARPE, Hand-list, iv, 1903, 183, part.

Sialia mexicana australis NELSON, Proc. Biol. Soc. Wash., xvi, Nov. 30, 1903, 159 (Mount Tancítaro, Michoacán; coll. U. S. Nat. Mus.).

SIALIA MEXICANA OCCIDENTALIS (Townsend).

CALIFORNIA BLUEBIRD.

Similar to *S. m. anabelæ* but smaller, with relatively smaller and more slender bill; adult male with the blue averaging less violaceous (more ultramarine or cobalt, sometimes nearly cerulean), back (usually) with more of chestnut, and cinnamon-rufous of under parts more extended, always (?) covering whole anterior portion of chest.

Adult male.—Length (skins), 151–165 (158); wing, 102–109.5 (105.3); tail, 61.5–68.5 (64.4); exposed culmen, 11.5–13 (12.2); tarsus, 19.5–21.5 (20.1); middle toe, 14–16 (15.1).[a]

Adult female.—Length (skins), 148–163 (155); wing, 100–107.5 (102.9); tail, 60.5–64 (62.1); exposed culmen, 12–13 (12.6); tarsus, 20–21.5 (20.6); middle toe, 14.5–15.5 (15.1).[a]

Pacific coast district, from Los Angeles County, California, to British Columbia, chiefly from the coast to the western slope of the Sierra Nevada and Cascade ranges, but extending eastward through eastern Oregon and Washington to Idaho (Fort Sherman; Hellgate) and Montana (Thompsons Falls and Columbia Falls, breeding); northward to British Columbia (Vancouver Island; Ducks); southward in winter as far as San Pedro Martír Mountains, Lower California.

Sialia occidentalis TOWNSEND, Journ. Ac. Nat. Sci. Phila., vii, 1837, 188 (Columbia R.; type in coll. U. S. Nat. Mus.); Narrative, 1839, 343.—AUDUBON, Synopsis, 1839, 84; Birds Am., oct. ed., ii, 1841, 176, pl. 135.—NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 513.—WOODHOUSE, in Sitgreaves' Expl. Zuñi and Col. R., 1853, 68, part (California).—HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1853, 264 (California).—NEWBERRY, Rep. Pacific R. R. Surv., vi, 1857, 80 (Des Chutes R., Oregon, etc.).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 332, part (California; British Columbia).

[*Sialia*] *occidentalis* HEINE and REICHENOW, Nom. Mus. Hein., 1890, 6 (California).—SHARPE, Hand-list, iv, 1903, 184.

Sialia mexicana occidentalis RIDGWAY, Auk, xi, Apr., 1894, 154, part (monogr.; localities in California; Columbia R.; British Columbia; San Pedro Martir Mts., Lower California); Man. N. Am. Birds, 2d ed., 1896, 612.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xii, 1895, 166; Check List, 2d ed.,

[a] Ten specimens.

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1895, no. 767.—DAWSON, Auk, xiv, 1897, 181 (Okonogan Co., Washington, irregular visitant).—GRINNELL, Pub. 2, Pasadena Ac. Sci., 1898, 52 (Los Angeles Co., California, resident).—RATHBUN (S. F.), Auk, xix, 1902, 140 (Seattle, Washington, breeding).

S[ialia] mexicana occidentalis COUES, Key N. Am. Birds, 5th ed., i, 1903, 258.

Sylvia occidentalis AUDUBON, Orn. Biog., v, 1839, 41, pl. 393.

(?) *Sialia cærulecollis* VIGORS, Zool. Voy. "Blossom," 1839, 18, pl. 3 (no locality mentioned).

Sialia mexicana (not of Swainson) BONAPARTE, Geog. and Comp. List, 1838, 16—GAMBEL, Proc. Ac. Nat. Sci. Phila., iii, 1846, 113 (California); Journ. Ac. Nat. Sci. Phila., i, 1847, 37 (do.).—SCLATER, Proc. Zool. Soc. Lond., 1857, 126 (California); 1859, 235 (Vancouver I.).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 223, part; Cat. N. Am. Birds, 1859, no. 159, part; Review Am. Birds, 1864, 63, part (Fort Steilacoom, Washington; Columbia R.).—(?) XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 190, part (Port Tejon, California).—HEERMANN, Rep. Pacific R. R. Surv. x, 1859, 43 (California).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 173 (Washington and Oregon).—BROWN, Ibis, 1868, 420 (Vancouver I.).—COOPER, Am. Nat., iii, 1869, 32 (Montana); Orn. Cal., 1870, 28, part.—COUES, Check List, 1873, no. 17, part; 2d ed., 1882, no. 28, part; Birds N. W., 1874, 14, part; Birds Col. Vol., 1878, 80, part.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 65, part, pl. 5, fig. 2.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 267, part ("Plains of Colima").[a]—BENDIRE, Proc. Bost. Soc. N. H., 1877, 111 (Camp Harney, Oregon, migr.).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 23, part.—ANTHONY, Auk, iii, 1886, 172 (Washington Co., Oregon, summer); Zoe, iv, no. 3, 1893, 247 (San Pedro Martir Mts., Lower California, during migration).—EVERMANN, Auk, iii, 1886, 186 (Ventura Co., California, resident; habits).—MERRILL (J. C.), Auk, v, 1888, 365 (Fort Klamath, Oregon, breeding).—CHAPMAN, Bull. Am. Mus. N. H., iii, 1890, 155 (Westminster, British Columbia, breeding).—PALMER (T. S.), Auk, ix, 1892, 310 (Aberdeen, Washington, breeding ?).—NEHRLING, Our Native Birds, i, 1893, 83; ii, 1896, pl. 20, fig. 1.

[*Sialia*] *mexicana* COUES, Key N. Am. Birds, 1873, 76, part..

S[ialia] mexicana COUES, Key N. Am. Birds, 2d ed., 1884, 258, part.—RIDGWAY, Man. N. Am. Birds, 1887, 581, part.

(?) *Sialia mexicana bairdi* (not of Ridgway ?) MERRILL (J. C.), Auk, xv, 1898, 21 (Fort Sherman, Idaho, breeding).[b]

SIALIA ARCTICA Swainson.

MOUNTAIN BLUEBIRD.

Adult male in summer.—Above plain rich turquoise, cerulean, or sevres blue the wings and tail slightly more violaceous (more cobalt) blue; shafts of remiges and rectrices black, and terminal portion of primaries dusky; sides of head, chin, throat, chest, breast, and sides, plain turquoise or light cerulean blue, decidedly paler and less bright than color of upper parts; abdomen, hinder flanks, anal region, and shorter under tail-coverts white; longer under tail-coverts pale turquoise or cerulean blue tipped or margined with white; bill, legs, and feet, black; iris, dark brown.

[a] The specimen so labeled is a California example of *S. m. occidentalis*.

[b] Specimens from Idaho not seen by me.

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Adult male in winter.—Similar to the summer plumage, but blue of upper parts duller, that of pileum, hindneck, back, and scapulars more or less obscured by pale brownish gray margins or tips, the greater wing-coverts and tertials edged with whitish or pale grayish; blue of under parts washed, more or less strongly, with pale brownish gray or grayish brown, especially on chest and sides of breast.

Adult female in summer.—Pileum, hindneck, back, and scapulars, plain mouse gray or smoke gray, sometimes faintly tinged with greenish blue; rump, upper tail-coverts, tail, and remiges (except tertials), turquoise or light cerulean blue, sometimes inclining toward nile blue; tertials and greater wing-coverts similar in color to back, etc., but darker, edged with paler, and sometimes tinged with blue; lesser and middle wing-coverts dull greenish blue, or else dusky brownish gray margined with bluish; an orbital ring of dull white; auricular region similar in color to pileum, etc., but rather browner; chin, throat, chest, breast, and sides, pale brownish gray (sometimes more buffy gray), passing into dull white on abdomen, hinder flanks, anal region, and under tail-coverts, the longer of the latter with dusky shaft-streaks and sometimes tinged with blue; bill, iris, legs, and feet as in the male.

Adult female in winter.—Similar to the summer plumage but, coloration slightly deeper, especially the buffy grayish of under parts.

Young male.—Pileum, hindneck, back, and scapulars light brownish gray or drab-gray the interscapular area usually more or less streaked with white; rump and upper tail-coverts light ash gray; remiges and rectrices as in adults, but with distinct terminal margins of white (duller on remiges), the tertials dusky gray with pale gray or dull whitish margins; middle wing-coverts brownish gray margined terminally with dull white or brownish white; greater-coverts dull blue, margined terminally and edged with pale gray or whitish; a conspicuous orbital ring of white; lores grayish white, suffused with dusky in front of eye, and margined above by dusky; auricular region brownish gray or pale grayish brown, indistinctly streaked with paler; throat and upper chest pale gray (passing into dull white on chin), indistinctly streaked with whitish; chest, sides, and flanks squamately streaked (broadly) with grayish brown or drab, the center of the feathers being white; rest of under parts white.

Young female.—Similar to the young male, but blue of wings and tail much duller and (especially that of wings) greener; color of black, etc., browner.

Adult male.—Length (skins), 162-180 (169); wing, 112.5–121.5 (117.6); tail, 68.5–76 (72); exposed culmen, 12.5–14 (13.4); tarsus, 21.5–24 (22.6); middle toe, 14.5–17 (15.5).[a]

[a] Sixteen specimens.

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Adult female.—Length (skins), 157–177 (166); wing, 107–116 (111.9); tail, 64.5–74 (68.4); exposed culmen, 12–14.5 (13.1); tarsus, 21.5–23.5 (22.3); middle toe, 14.5–16 (15).[a]

Mountain districts of western North America; north to Mackenzie (Fort Franklin, Great Slave Lake) and Yukon Territory (near Miles Cañon, Lake Lebarge, Fifty-Mile River, etc.); breeding southward to higher mountains of New Mexico (San Miguel County; Santa Fé), and Arizona (San Francisco and Mogollon mountains), and Chihuahua (Pacheco), eastward to eastern Wyoming (Black Hills) and northwestern Texas,[b] westward to the Sierra Nevada and Cascade ranges; in winter, southward to southern California (Los Angeles County, etc.) Guadalupe Island, Lower California, northern Sonora (Espia; Nacory; Pachica) and northwestern Chihuahua—probably also to northern Coahuila and Nuevo Leon; eastward (more or less irregularly) over nearly the whole of Texas (south to Laredo, east to Corpus Christi), Indian Territory (Beaver Creek, October, November), Kansas (Ellis; Lawrence; Neosho Falls; Baldwin City), and South Dakota (Corral Draw, Pine Ridge Reservation, May 17).

Erythaca (*Sialia*) *arctica* SWAINSON, Fauna Bor.-Am., ii, 1831, 209 (Fort Franklin, Mackenzie, lat. 65°).

Sialia arctica SWAINSON, Fauna Bor.-Am., ii, 1831, pl. 39.—NUTTALL, Man. Orn., U. S. and Can., ii, 1834, 573; 2d ed., i, 1840, 514.—ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., vii, 1837, 193 (Columbia R.).—BONAPARTE, Geog. and Comp. List., 1838, 16; Consp. Av., i, 1850, 298.—AUDUBON, Synopsis, 1839, 81; Birds Am., oct. ed., ii, 1841, 176, pl. 136.—GAMBEL, Proc. Ac. Nat. Sci. Phila., iii, 1846, 113 (n. provinces of Mexico); Journ. Ac. Nat. Sci. Phila., i, 1847, 37.—McCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 215 (Texas).—HEERMANN, Proc. Ac. Nat. Sci. Phila., ii, 1851, 264 (San Diego, California, Feb.); Rep. Pacific R. R. Surv., x, 1859, 44 (Santa Fé, New Mexico, breeding).—WOODHOUSE, in Rep. Sitgreaves' Expl. Zuñi and Col. R., 1853, 68 (Santa Fé, New Mexico, breeding).—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 310 (New Mexico).—BAIRD, Rep. Pacific R. R. Surv., ix,

[a] Fifteen specimens.

Specimens from the Pacific coast district compare in average measurements with those from the Rocky Mountain districts as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Rocky Mountain district	117.6	71.9	13.7	22.7	15.6
Six adult males from Washington, California, and western Nevada	117.5	72.1	13.6	22.4	15.4
FEMALES.					
Ten adult females from Rocky Mountain district	111.7	68	13.1	22.2	15.6
Five adult females from California and western Nevada	112.2	69.1	13.1	22.6	15.4

[b] According to Dresser, Ibis, 1865, 476, who even states that the species breeds in central Texas.

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1858, 224; x, 1859, 13, pl. 35 (Cochetope Pass, Colorado); Cat. N. Am. Birds, 1859, no. 160; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 9 (Espia, Sonora, March); in Ives' Rep. Col., pt. v, 1861, 5; Review Am. Birds, 1864, 64.—KENNERLY, Rep. Pacific R. R. Surv., x, 1859, 24 (75 m. w. Albuquerque, New Mexico).—SCLATER, Cat. Am. Birds, 1862, 11 (British America).—BLAKISTON, Ibis, 1863, 60 (Rocky Mts., lat. 490).—DRESSER, Ibis, 1865, 476 (s. Texas, abt. winter resid.; breeds in central and n. w. Texas).—COUES, Ibis, 1865, 163 (Arizona); Proc. Ac. Nat. Sci. Phila., xviii, 1866, 66 (Fort Whipple, Arizona); Check list, 1873, no. 18; 2d ed., 1882, no. 29; Birds Northwest, 1874, 14; Birds Col. Val., 1878, 82.—BUTCHER, Proc. Ac. Nat. Sci. Phila., xx, 1868, 149 (Laredo, Texas, Feb.).—COOPER, Orn. Cal., 1870, 29.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 67, pl. 5, fig. 4.—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 162 (localities in Utah, Colorado, and New Mexico; habits).—SNOW, Obs. Nat., iii, 1876 (Ellis, w. Kansas, Oct. 26; Lawrence, Neosho Falls, and Baldwin City, e. Kansas, Nov.).—RIDGWAY, Orn. 40th Parallel, 1877, 403 (localities in Nevada and Utah; habits); Nom. N. Am. Birds, 1881, no. 24; Orn. Illinois, i, 1889, 69.—MINOT, Bull. Nutt. Orn. Club, v, 1880, 225 (Denver, Colorado, breeding; notes; song).—BROWN (N. C.), Bull. Nutt. Orn. Club, vii, 1882, 35 (Kendall Co., s. w. Texas, winter).—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 76 (Chiricahua Mts., Arizona).—SEEBOHM, Cat. Birds Brit. Mus., v, 1881, 333.—AMERICAN ORNITHOLOGISTS' UNION, Check list, 1886, no. 768.—EVERMANN, Auk, iii, 1886, 186 (near Saticoy, Ventura Co., California, 1 spec., Dec.).—BRYANT (W. E.), Bull. Cal. Ac. Sci., ii, 1887, 318 (Guadalupe I., Lower California, 3 specs., Dec., Feb.).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 232 (Mount Shasta, etc., California, breeding; habits).—LLOYD, Auk, iv, 1887, 299 (Tom Green and Concho counties, w. Texas, autumn and winter).—COOKE, Bird Migr. Miss. Val., 1888, 294 (Kansas, Texas, etc.).—SCOTT, Auk, v, 1888, 168 (Santa Catalina Mts., Arizona, winter resid.).—MERRILL (J. C.), Auk, v, 1888, 366 (Fort Klamath, Oregon, breeding); xv, 1898, 21 (Fort Sherman, Idaho, breeding).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 696 (Corpus Christi, Texas, Jan., Feb.).—MEARNS, Auk, vii, 1890, 264 (Mogollon and San Francisco Mts., Arizona, breeding).—ANTHONY, Auk, ix, 1892, 369 (s. w. New Mexico, winter).—NEHRLING, Our Native Birds, i, 1893, 83; ii, 1896, pl. 20, fig. 2.—ALLEN, Bull. Am. Mus. N. H., v, 1893, 42 (n. e. Sonora and n. w. Chihuahua, Nov., Jan.)—MITCHELL, Auk, xv, 1898, 311 (San Miguel Co., New Mexico, breeding up to 9,000 ft.).—GRINNELL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 52 (Los Angeles Co., California, winter).—BISHOP, North Am. Fauna, no. 19, 1900, 96 (near Miles Cañon, Lake Lebarge, and Fifty Mile R., Yukon Territory, July).—CARY, Auk, xviii, 1901, 238 (Black Hills, Wyoming, breeding).—RAY, Auk, xx, 1903, 193 (Lake Valley, California, breeding).—BAILEY (Florence M.), Auk, xxi, 1904, 363 (Upper Pecos, New Mexico, up to 12,300 ft.).

[*Sialia*] *arctica* GRAY, Hand-list, i, 1869, 230, no. 3314.—COUES, Key N. Am. Birds, 1872, 56.—SHARPE, Hand-list, iv, 1903, 184.

S[ialia] arctica GRAY, Gen. Birds, i, 1846, 184.—COUES, Key N. Am. Birds, 2d ed., 1884, 258; 5th ed., i, 1903, 258.—RIDGWAY, Man. N. Am. Birds, 1887, 582.

Salia (typographical error) *arctica* STEVENSON, Prelim. Rep. U. S. Geol. Surv. Terr., 1871, 463 (Fort Bridger, Uintah Mts., etc., Wyoming).

Sylvia arctica AUDUBON, Orn. Biog., v, 1839, 38, pl. 393, figs. 2, 3.

Sialia arctica (typographical error) HARTLAUB, Journ. für Orn., 1883, 269 (Dejäh, Alaska).

Sialia macroptera BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 314, 328 (Salt Lake City, Utah; coll. U. S. Nat. Mus.).

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Genus MYADESTES Swainson.

Myadestes SWAINSON, Naturalists' Libr., xiii, 1838, 132. (Type, *M. genibarbis* Swainson.)

Myidestes (emendation) SWAINSON, Naturalists' Libr., xiii, 1838, 134.

Myiadestes (emendation) AGASSIZ, Nomencl. Zool., Aves, 1842, 49.

Myiesthes (emendation) AGASSIZ, Index Univers., 1846, 241.

Myiadectes (emendation) BONAPARTE, Compt. Rend., xxxviii, 1854, 3; Notes Orn. Coll. Delattre, 1854, 27.

Myiedestes (emendation) SHARPE, Hand-list Birds, iv, 1903, 112.

Rather small short-legged, short- and broad-billed Turdidæ with bill decidedly broader than high at frontal antiæ, gonys decidedly shorter than mandibular rami, and inner webs of remiges crossed by a broad basal or subbasal band of white or buff.[a]

Bill short, broad and depressed at base, triangular in vertical profile, its width at frontal antiæ greatly exceeding its height at same point and equal to or exceeding length of gonys; exposed culmen little if any longer than outer toe (without claw), straight basally (sometimes for most of its length) decurved terminally; gonys decidedly shorter than mandibular rami, much less than width of space between latter at base, faintly convex, strongly ascending terminally; maxillary tomium nearly straight, very distinctly notched subterminally. Nostril longitudinally ovoid or fusiform (usually narrower at anterior end), more or less covered posteriorly by antrorse bristly feathers of the frontal antiæ, overhung by membrane. Rictal and decumbent post-nasal bristles strongly developed, especially the former; feathers of chin with slender, recurved bristle-like points. Wing moderate to long, rounded, the longest primaries exceeding longest secondaries by less than length of tarsus to combined length of tarsus and middle toe (without claw); outermost (tenth) primary longer than primary coverts, one-third (*M. townsendi*) to nearly one-half (*M. melanops*) as long as ninth, rather narrow, with rounded tip, except in *M. solitarius* and allies (not *M. sibilans*, however), in which it is subfalcate; ninth primary shorter than third (*M. melanops*) to longer than fourth (*M. townsendi*); eighth, seventh and sixth, seventh and sixth, or sixth and fifth primaries longest; four primaries (eighth, seventh, sixth, and fifth) with outer web sinuated, but sinuation rather indistinct, especially on eighth or fifth, where sometimes hardly appreciable. Tail nearly equal to or slightly longer than wing, double-rounded, the lateral rectrices usually shorter than middle pair but sometimes longer; rectrices rather soft, tapering more or less distinctly, the tip narrowly rounded or sometimes subacuminate. Tarsus short and slender, one-sixth to decidedly more than one-fourth as long as wing, the acrotarsium booted; middle toe (without claw) two-thirds to three-

[a] As in the genera *Hylocichla*, *Iroreus*, *Cichloselys*, *Ridgwayia*, *Oreocichla*, and *Geocichla*.

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fourths as long as tarsus; lateral toes equal or very nearly so, both reaching (without claw) very slightly beyond subterminal articulation of middle toe (*M. obscurus*, *M. unicolor*, and *M. melanops*) or the outer one longer, reaching (without claw) decidedly beyond the joint mentioned (other species); hallux shorter than inner toe but much stouter; basal phalanx of middle toe united for basal half or more to outer toe, for less than basal half to inner toe; claws moderate in size, strongly curved, acute, that of the hallux shorter than its digit (sometimes nearly as long in *M. townsendi*).

Coloration.—Adults never spotted nor streaked; upper parts plain bluish slate, gray, brown, or dull rufous (if brown or rufous the head usually grayer), the secondaries showing a more or less distinct broad blackish or dusky sub-basal band, their inner webs with a broad basal band of white or buffy, this continued, less definitely over middle portion of primaries; under parts plain grayish, dull white becoming pale brownish gray on chest and sides (*M. elizabeth*), or gray with rufous throat-patch and under tail-coverts (Haitien, Jamaican, and Lesser Antillean species); lateral rectrices with more or less of white; sexes alike; young conspicuously spotted, above as well as below, with buff or ochraceous, the spots margined with blackish.

Nidification.—Nest (of *M. townsendi*) placed in cavities among rocks or banks, old logs or stumps, or similar situations, bulky, open above, composed of twigs, shreds of bark, etc., lined with finer materials; eggs (of *M. townsendi*) whitish, speckled with reddish brown.

Range.—Mountain districts of western North America, Mexico, Central America, northern South America, and West Indies (islands of Cuba, Haiti, Jamaica, Martinique, Dominica, Santa Lucia, and St. Vincent). About twelve species, with additional subspecies.

KEY TO THE SPECIES AND SUBSPECIES OF MYADESTES.

a. Plumage without spots or streaks. (Adults.)
  b. Without rufous on under parts.
    c. Upper parts plain grayish or slate color, the under parts similar but paler.
      d. Wing six times as long as tarsus; inner primaries with a patch of buff at base of outer web. (Western North America, from Zacatecas, Mexico, to Alaska.)
      Myadestes townsendi (p. 163)
      dd. Wing less than five times as long as tarsus; inner primaries without buff at base of outer web.
        e No black on forehead or chin; eyelids partly white; bill blackish. (Southeastern Mexico to northern Honduras.).....**Myadestes unicolor** (p. 170)
        ee. Forehead and chin (as well as lores, etc.) black; no white on eyelids; bill yellow (orange in life). (Costa Rica and Panama.)
        Myadestes melanops (p. 171)

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cc. Upper parts brown, distinctly different from color of under parts.

d. Color of upper parts uniform (olive) from forehead to tail; under parts white shaded with gray on chest and sides. (*Myadestes elisabeth.*)

e. Browner, with larger and broader bill. (Cuba.)
Myadestes elisabeth elisabeth (p. 172)

ee. Grayer, with smaller, narrower, and more pointed bill. (Isle of Pines, Cuba.) ..... **Myadestes elisabeth retrusus** (p. 173)

dd. Color of upper parts much grayer on pileum (at least on forehead) than on back; under parts gray, with or without white on throat and abdomen.

e. Rump grayish or grayish olive, grayer than back; a white orbital ring; throat and abdomen whitish. (*Myadestes obscurus.*)

f. Darker, with forehead not distinctly whitish, and whole back distinctly olive-brown or brownish olive. (Mountains of eastern Mexico to highlands of Guatemala.) ..... **Myadestes obscurus obscurus** (p. 166)

ff. Paler, with forehead distinctly whitish and back more or less grayish medially or much paler and grayer olive. (Mountains of western Mexico, including Tres Marias Islands.)
Myadestes obscurus occidentalis (p. 168)

ee. Rump russet, concolor with back; no white orbital ring; throat and under parts slate-gray, like rest of under parts. (Colombia to Venezuela and Bolivia.) ..... **Myadestes ralloides** (extralimital) [a]

bb. Throat and under tail-coverts rufous.

c. Upper parts slate color.

d. Thighs slate-gray.

e. Chin and anterior portion of malar region chestnut-rufous, like throat, or with only a slight admixture of white; auricular region dark slate color without white streaks; malar region mostly blackish; larger, with tail relatively longer (averaging longer than wing.) (Island of Jamaica and western portion of Haiti.) ..... **Myadestes solitarius** (p. 174)

ee. Chin or anterior portion of malar region (or both) extensively and conspicuously white, the posterior portion of malar region cinnamon-rufous; auricular region clear slate color, narrowly streaked with white; smaller, with relatively shorter tail (averaging shorter than wing). (*Myadestes genibarbis.*)

f. Whole abdomen tawny-ochraceous, like under tail-coverts; chin less extensively white, sometimes tinged with rufous. (Islands of Martinique, Lesser Antilles.) ..... **Myadestes genibarbis genibarbis** (p. 175)

ff. Only lower portion of abdomen tawny-ochraceous, the color paler; chin more extensively white.

g. More white on chin and lateral rectrices; lower abdomen paler tawny-ochraceous. (Island of Santa Lucia, Lesser Antilles.)
Myadestes genibarbis sanctæ-luciæ (p. 176)

gg. Less white on chin and lateral retrices; lower abdomen deeper tawny-ochraceous.

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[a] *Muscipeta ralloides* D' Orbigny, Voy. Amér. Mérid., Ois., "1839." 322.—*Myiadestes ralloides* Sclater and Salvin, Exotic Orn., 1869, 53, pl. 27.—*Myiadectes ralloides* Sharpe, Cat. Birds Brit. Mus., vi, 1881, 375.—*Ptilogonys griseiventer* Tschudi, Archiv. für Naturg., 1844, 270.—*Myiadestes griseiventer* Cabanis, Archiv. für. Naturg., 1847, 209.—*Myiadestes venezuelensis* Sclater, Ann. Nat. Hist. ser. 2, xvii, 1856, 468; Baird, Review Am. Birds, 1866, 427.

This species evidently requires subdivision, but I have not the material necessary for so doing.

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h. White streaks on auricular region broader, on darker ground color; throat darker (more rufous-chestnut); gray of chest darker; flanks tinged with ochraceous or tawny. (Islands of Dominica, Lesser Antilles.).....**Myadestes genibarbis dominicana** (p. 177)

hh. White streaks on auricular region narrower, on a lighter slate-colored ground; throat lighter (bright cinnamon-rufous); gray of chest paler; flanks clear pale gray scarcely, if at all, tinged with ochraceous or tawny. (Eastern portion of Island of Haiti, or Santo Domingo.).....**Myadestes genibarbis cherriei** (p. 177)

dd. Thighs yellow. (Habitat unknown.).....**Myadestes armillatus** (p. 178)

cc. Upper parts sooty black. (Island of St. Vincent, Lesser Antilles.)
Myadestes sibilans (p. 179)

aa. Plumage spotted or streaked. (Young.)

b. Chin and upper throat uniform blackish.....**Myadestes melanops**, young (p. 171)

bb. Chin and upper throat not blackish.

c. General color of upper parts grayish brown or olive; throat and under tail-coverts whitish or pale buff, with or without dusky margins to feathers.

d. A patch of buff at base of outer webs of inner primaries.
Myadestes townsendi, young (p. 164)

dd. No patch of buff at base of outer webs of primaries.

e. Upper parts conspicuously spotted with buff; under parts distinctly squamated with dusky. (*Myadestes obscurus* young).

f. Darker, with under parts more strongly buffy and black squamations broader.....**Myadestes obscurus obscurus**, young (p. 167)

ff. Paler, with under parts less strongly buffy and blackish squamations narrower.....**Myadestes obscurus occidentalis**, young (p. 168)

ee. Upper parts more sparsely and indistinctly spotted with buffy, the spots smaller and more brownish; under parts much less distinctly squamated with dusky.....**Myadestes elisabeth**, young (p. 172)

cc. General color of upper parts sooty and slate color; throat and under tail-coverts plain pale cinnamon-rufous or ochraceous-buff.
Myadestes genibarbis and subspecies, young (p. 175, 176, 177)

MYADESTES TOWNSENDI (Audubon).

TOWNSEND'S SOLITAIRE.

Adults (*sexes alike*).—Above plain brownish gray (varying from drab-gray or smoke gray to hair brown), the under parts similar but slightly paler, especially on chin, throat, and abdomen, the under tail-coverts broadly but rather indistinctly tipped with dull white; an orbital ring of dull white; lores dusky; wings dusky or dark grayish brown, with lighter brownish gray edgings, the secondaries and inner primaries buff or ochraceous-buff basally (mostly hidden by greater and primary coverts), and with a broad dusky space intervening between this buffy portion and the grayish-edged terminal portion; tertials margined terminally with dull white (except in worn plumage); middle pair of rectrices concolor with back, or darker brownish gray, the others dusky or very dark brownish gray, the outermost with terminal half (approximately) of outer web dull white, the inner web broadly tipped with white, this white extending

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along shaft for a considerable distance, the second rectrix with a similar but much smaller white tip; axillars pale brownish gray; under wing-coverts mixed pale brownish gray and dull white; under surface of remiges showing an oblique basal and subbasal band of buff or ochraceous-buff; bill, legs, and feet, black; iris, brown.

Young.—Wings (except coverts) and tail as in adults, but coloration of head and body very different; pileum, hindneck, back, scapulars, rump, upper tail-coverts, and lesser and middle wing-coverts conspicuously spotted with buff, each feather having a single spot of this color, approximately rhomboid or cordate in shape, the feathers broadly margined with blackish, causing a somewhat squamate effect; under parts pale buff or grayish buff, the feathers margined with black or sooty.

Adult male.—Length (skins), 195–207 (202); wing, 112.5–123 (117.3); tail, 95–109.5 (103.3); exposed culmen, 12–13 (12.4); tarsus, 20–22 (20.7); middle toe, 15–16.5 (15.5).[a]

Adult female.—Length (skins), 187–204 (196); wing, 110.5–115.5 (113.6); tail, 95–105 (97.5); exposed culmen, 11–12.5 (11.8); tarsus, 19.5–21 (20.4); middle toe, 14.5–16 (15.2).[b]

Mountain districts of western North America; breeding (in pine forests) from northwestern Mexico, in States of Zacatecas[c] (Sierra Madre), Durango (El Salto), Coahuila (Sierra Guadalupe, April 21), Chihuahua (Colonia Garcia; Pacheco; Sierra Madre, near Guadalupe

[a] Twenty-two specimens.

[b] Twelve specimens.

Average measurements according to geographic area are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from California, Oregon, etc	116.7	104.1	12.6	20.7	15.6
Eight adult males from Rocky Mountain district	117.4	102.1	12.2	20.8	15.7
One adult male from Yukon River	113	99	12	20	16
Six adult males (breeding) from Chihuahua and Durango	117.9	104	12.6	20.4	15.2
FEMALES.					
Four adult females from California, etc	114.6	97.5	11.6	20.6	15.4
Five adult females from Rocky Mountain district	112.9	97.1	11.8	20.5	15
Two adult females from Yukon River	111.5	98	11.7	20.5	16
Three adult females from Chihuahua and Coahuila	113.8	98.3	12	20.2	15.2

In a large series of specimens (including many not represented in the above measurements) I am not able to make out satisfactorily any geographic variation. The specimens from Chihuahua, Durango, and Zacatecas, however, have the ochraceous-buff band across under surface of remiges deeper in color, and the general coloration seems slightly darker and browner.

[c] A still more southern locality (Sierra de Bolaños, Jalisco) is cited by Salvin and Godman (Ibis, 1889, 381), but the date at which specimens were obtained is not given.

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Calvo; Piños Altos) and Sonora (?) to Alaska (heights above Bennett; 1,500 feet above Caribou Crossing; Lake Lebarge; Yukon River, 20 miles above Circle) and Northwest Territory (Miles Cañon; Semenow Hills) and from the coast ranges to the Black Hills of North Dakota and western Texas (Saragossa); wintering from Oregon, Montana, etc., southward; straggling, in autumn or winter, to Kansas (Wallace, October), Nebraska (Niobrara; Alda; Norfolk, etc.) and northwestern Illinois (Waukegan, December 16, 1875).

Ptilogonys townsendi AUDUBON, Orn. Biog., v. 1839, 206, pl. 419, fig. 2 (near Columbia River;[a] type now in coll. U. S. Nat. Mus.); Synopsis, 1839, 46.—NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 361.

Ptilogonys townsendii AUDUBON, Birds Am., oct. ed., i, 1840, 243, pl. 69.—GAMBEL, Proc. Ac. Nat. Sci. Phila., i, 1843, 261 (California; habits); iii, 1847, 157 (do.).—HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1853, 262 (Cosumnes R., California).—WOODHOUSE, Rep. Sitgreaves' Expl. Zuñi and Col. R., 1853, 76 (Zuñi Mt., New Mexico).—HENRY, Proc. Ac. Nat. Sci. Phila., viii, 1855, 308 (New Mexico).

Ptiliogonys townsendi TOWNSEND, Narrative, 1839, 338.

[*Ptiliogonys*] *townsendii* GAMBEL, Journ. Ac. Nat. Sci. Phila., i, 1847, 40 (mountains of s. California).

Ptiliogonys townsendii NEWBERRY, Rep. Pacific R. R. Surv., vi, 1857, 82 (Des Chutes basin, Oregon; habits; song).

Culicivora townsendi DE KAY, New York Zool., ii, 1844, 110.

Myiadestes townsendii CABANIS, in Wiegmann's Archiv. für Naturg., 1847 (i), 208.—BAIRD, Rep. Pacific R. Surv., ix, 1858, 321; Cat. N. Am. Birds, 1859, no. 235; Review Am. Birds, 1866, 429.—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 106 (New Mexico).—KENNERLY, Rep. Pacific R. R. Surv., x, 1859, 5 (Zuñi, New Mexico, and westward).—HEERMANN, Rep. Pacific R. R. Surv., x, 1859, 38 (California; Fort Webster, New Mexico).—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 191 (Fort Tejon, California).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 187 (Fort Laramie, Wyoming; Fort Steilacoom, Washington).—SCLATER, Cat. Am. Birds, 1862, 47 (Puget Sound).—LORD, Proc. Roy. Art. Inst. Woolw., iv, 1864, 116 (British Columbia).—COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 72 (Fort Whipple, Arizona); Check List, 1873, no. 121; Birds Northwest, 1874, 93.—COOPER, Orn. Cal., 1870, 134.—BOND, Auk, vi, 1889, 193 (North Platte Cañon, Wyoming, wintering).

[*Myiadestes*] *townsendii* COUES, Key N. Am. Birds, 1872, 117.

Myiadestes townsendi SCLATER, Proc. Zool. Soc. Lond., 1857, 5 (crit.); 1858, 97 (diagnosis; crit.).—COUES, Ibis, 1865, 163 (Arizona); Birds Col. Val., 1878, 44; Check List, 2d ed., 1882, no. 169; Bull. Nutt. Orn. Club, viii, 1883, 239 (Jefferson Co., Colorado; descr. nest and eggs).—AIKEN, Proc. Bost. Soc. N. H., xv, 1872, 198 (Colorado).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 409, pl. 18, figs. 5, 6.—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 231 (Pine Valley and Cove Creek, Utah; Baldy Peak, etc., Colorado, up to 10,000 ft.; Fort Wingate and Silver City, New Mexico; Apache, Arizona; habits); Rep. Orn. Spec. Wheeler's Surv., 1876, 237 (Mount Whitney, California, Sept.).—NELSON, Bull. Nutt. Orn. Club, i, 1876, 40 (Waukegan, Illinois, Dec. 16, 1875).—LAMB, Bull. Nutt. Orn. Club, ii, 1877, 77 (Summit Co., Colorado; descr. nest and eggs).—RIDGWAY, Orn. 40th Parallel, 1877, 408 (Sierra

[a] The precise locality is Fort George, near Astoria, Oregon. (See Townsend, Narrative, p. 338).

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Nevada; Virginia Mts., Nevada); Nom. N. Am. Birds, 1881, no. 25.—BENDIRE, Proc. Bost. Soc. N. H., xix, 1877, 115 (Camp Harney, e. Oregon, wintering but not breeding).—DREW, Bull. Nutt. Orn. Club, vi, 1881, 86 (San Juan Co., Colorado; habits; descr. nest and eggs).—STEPHENS, Bull. Nutt. Orn. Club, vii, 1882, 76 (Chiricahua and Santa Rita Mts., Arizona).—BRYANT (W. E.), Auk, i, 1884, 91 (Big Trees, Calaveras Co., California; descr. nest and eggs).—Goss, Auk, i, 1884, 100 (Wallace, w. Kansas; 10 specs., Oct., 1883).—SALVIN and GODMAN, Ibis, 1889, 381 (Sierra de Bolaños, Jalisco; Sonora; crit.).

M[yiadestes] townsendi NELSON, Bull. Essex Inst., viii, 1876, 94 (Waukegan, Illinois, 1 spec., Dec. 16, 1875).—COUES, Key N. Am. Birds, 2d ed., 1884, 329; 5th ed., i, 1903, 259.

M[yiadectes] townsendi SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 40, in text.

Myiadectes townsendi SHARPE, Cat. Birds Brit. Mus., vi, 1881, 374.

Myadestes townsendi STEJNEGER, Proc. U. S. Nat. Mus., v, Feb. 28, 1883, 482 (fig. gen. details).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 754.—COOKE, Bird Migr. Miss. Vol., 1888, 282 (Niobrara R. and Alda, Nebraska; s. e. Nebraska; w. Kansas, fall and winter; Black Hills, Dakota, breeding; Saragossa, w. Texas, breeding).—RIDGWAY, Orn. Illinois, i, 1889, 70.—BISHOP, North Am. Fauna, no. 19, 1900, 93 (heights above Bennett, 1,500 ft. above Caribou Crossing, Lake Lebarge, Miles Cañon, Semenow Hills, etc., Alaska; song).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 63 (Huachuca Mts., Arizona, spring migrant; habits).

Myadestes townsendii TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 230 (Red Bluff, etc., n. California; habits; descr. nest and eggs).—SCOTT, Auk, v, 1888, 167 (Pinal and Santa Catalina Mts., Arizona, Oct., Nov.).—WILLIAMS, Auk, vii, 1890, 98 (winters in Montana north at least to 47°; habits; song.)—TOPPAN, Auk, vii, 1890, 408 (Norfolk, Nebraska, 1 spec., winter).—NEHRLING, Our Native Birds, etc., i, 1893, 84; ii, 1896, pl. 20, fig. 4.—MITCHELL, Auk, xv, 1898, 311 (San Miguel Co., New Mexico, breeding at 10,000 ft.).

[*Myadestes townsendii*] ANTHONY, Condor, v, 1903, 10–12 (nesting habits; descr. nest and eggs).

M[yadestes] townsendii RIDGWAY, Man. N. Am. Birds, 1887, 572.

Myiadestes obscurus (not of Lafresnaye) BONAPARTE, Consp. Av., i, 1850, 330, part.

[*Myiedestes*] *townsendi* SHARPE, Hand-list, iv, 1903, 113.

MYADESTES OBSCURUS OBSCURUS Lafresnaye.

BROWN-BACKED SOLITAIRE.

Adults (*sexes alike*).—Pileum, hindneck, sides of neck, and auricular region plain olivaceous slate color or dark mouse gray, the last with narrow shaft-streaks of whitish; back and rump plain olive-brown, deepening into a more russet hue on scapulars, fading into olivaceous hair brown on lower rump and upper tail-coverts; middle rectrices plain brownish gray, with black shafts; rest of tail dull black, the lateral rectrix with outer web (except basally) and terminal third (more or less) pale grayish brown, passing terminally into dull white; second rectrix with a much smaller terminal wedge-shaped space of pale grayish brown and white; lesser and middle wing-coverts deep russet or mars brown; greater coverts similar but duller, except on edges; tertials plain olive-brown; secondaries more rufescent brown, crossed near base by a broad band of dull black (broken by brown edges to the quills); primaries dusky, broadly edged with light russet or tawny brown, passing into pale dull buffy

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terminally; a conspicuous white orbital ring, interrupted at anterior angle of eye; lores blackish, margined above by an indistinct line of pale gray or dull grayish white; suborbital region dusky, streaked or flecked with dull whitish; malar region pale brownish gray (nearly white anteriorly), the feathers margined terminally with dusky; chin and upper throat dull white, margined laterally by a broad submalar streak of dusky; lower throat pale brownish gray, the chest deep smoke gray or deep olive-gray, passing into a slightly paler gray on breast, this into dull white on abdomen, the feathers with indistinct narrow whitish shaft-streaks; sides and flanks light olive-brown (similar to but paler than color of back); under tail-coverts pale brownish gray with broad margins and narrow shaft-streaks of white; under wing-coverts light buffy olive-brown; inner webs of remiges (except outermost primaries) crossed by a broad band of buff; bill black, the mandible somewhat brownish basally; iris brown; legs and feet brownish (in dried skins).

Young.—Pileum sooty black, each feather with a large subterminal spot of buff; rest of upper parts olive-brown spotted with buff, the feathers margined terminally with sooty black, the wing-coverts similarly marked; remiges and rectrices as in adults, but tertials narrowly margined at tip with pale buff; under parts yellowish buff, passing into dull white on abdomen, the feathers margined with sooty black, these blackish markings broadest and most conspicuous on chest and upper breast, narrower and less distinct on throat, obsolete on abdomen and under tail-coverts.

Adult male.—Length (skins), 191–221 (202); wing, 101.5–107 (104); tail, 96–107 (100); exposed culmen, 12–13 (12.6); tarsus, 20.5–21.5 (21.1); middle toe, 15–16 (15.6).[a]

Adult female.—Length (skins), 185–200 (195); wing, 98.5–106 (101.4); tail, 92.5–98.5 (95.5); exposed culmen, 12–13 (12.4); tarsus, 19.5–21.5 (20.7); middle toe, 14–17 (15.4).[b]

[a] Six specimens.

[b] Eight specimens.

Specimens from Guatemala and Chiapas are smaller than those from Vera Cruz, etc., and somewhat different in coloration, some specimens being much like *M. o. occidentalis* in the latter respect. There are not enough specimens available, however, for satisfactory comparison. Average measurements are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Vera Cruz, Hidalgo, Oaxaca, and Guerrero	101.2	100	12.6	21.1	15.6
Two adult males from Guatemala	97.2	96	11	19.7	14.7
FEMALES.					
Eight adult females from Vera Cruz, etc	101.4	95.5	12.4	20.7	15.4
One adult female from Chiapas	94	90	11.5	20	15.5

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Highlands of eastern Mexico, in States of Nuevo Leon (Monterey;[a] Cerro de la Silla[a]), San Luis Potosí,[b] Hidalgo (El Chico), Vera Cruz (Jalapa; Orizaba; Miradór; Teócelo; Jico), Puebla (Teziutlán), Mexico (Amecameca[a]), Morelos (Huitzilác), Guerrero (Omilteme; mountains near Tulancingo), Oaxaca (Tlapancingo; Totóntepec; La Parada; Yolétepec), and Chiapas (Pinabete), and Guatemala (San Marco; Nebáj, Department of Quiché; Volcan de Fuego; Cerro de Zunil; Quezaltenango; San Gerónimo; Tactíc).

Myadestes obscurus LAFRESNAYE, Rev. Zool., ii, April, 1839, 98 (Mexico; type now in coll. Bost. Soc. N. H).—STEJNEGER, Proc. U. S. Nat. Mus., iv, 1882, 371 (crit.; Orizaba, Vera Cruz; Volcan de Fuego, Guatemala).—RIDGWAY, Proc. U. S. Nat. Mus., ix, 1886, 133 (Teziutlán, Puebla; crit.).

M[yadestes] obscurus RIDGWAY, Man. N. Am. Birds, 1887, 573.

Myiadestes obscurus SCLATER, Proc. Zool. Soc. Lond., 1856, 300 (Guatemala); 1857, 5, 213 (Orizaba, Vera Cruz); 1858, 302 (La Parada, Oaxaca); 1859, 364 (Jalapa, Vera Cruz), 376 (Totontepec, Oaxaca; descr. eggs); Cat. Am. Birds, 1862, 47 (Jalapa; Guatemala).—SCLATER and SALVIN, Ibis, 1859, 14 (Guatemala; descr. song); Exotic Orn., pt. iv, 1867, 49, pl. 25.—BAIRD, Review Am. Birds, 1866, 430, part (Orizaba; Volcan de Fuego, Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 548 (alpine reg. Vera Cruz).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 409, part.—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 21 (Jalapa; habits; song).

M[yiadestes] obscurus CABANIS, Mus. Hein., i, 1850, 54 (Jalapa).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 409, part.

[*Myiadestes*] *obscurus* BONAPARTE, Consp. Av., i, 1850, 336.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4, part.

Myiadectes obscurus SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 40, part (Real Ariba?; Orizaba and Jalapa, Vera Cruz; La Parada, Yolétepec, and Totóntepec, Oaxaca; Volcan de Fuego, Cerro de Zunil, Quezaltenango, San Gerónimo, and Tactíc, Guatemala).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 373, part.—SALVIN, Cat. Strickland Coll., 1882, 61 (Guatemala).

[*Myiedestes*] *obscurus* SHARPE, Hand-list, iv, 1903, 113.

P[tilogonys] obscurus GRAY, Gen. Birds, i, 1846, 281.

[*Ptilogonys*] *obscurus* GRAY, Hand-list, i, 1869, 366, no. 5574.

[*Myiadestes*] *casius* LICHTENSTEIN, Nomencl. Av. Mus. Berol., 1854, 20 (Mexico; nomen nudum!).

MYADESTES OBSCURUS OCCIDENTALIS Stejneger.

JALISCAN SOLITAIRE.

Similar to *M. o. obscurus*, but coloration paler and grayer; gray of pileum, etc., nearer ash gray than slate color, with forehead more or less extensively whitish; back grayish olive or olive-grayish; rump gray or slightly olivaceous-gray; gray of under parts paler and purer, the sides and flanks much less strongly (often not at all) tinged with olive.

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[a] Specimens from these localities are intermediate between *M. o. obscurus* and *M. o. occidentalis*.

[b] No specimens seen by me or recorded from San Luis Potosí, but the form necessarily occurs there.

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Adult male.—Length (skins), 190–222 (203); wing, 98–107.5 (103.1); tail, 93–108.5 (100.3); exposed culmen, 11–13 (12.1); tarsus, 19–23 (21.1); middle toe, 15–17 (16.1).[a]

Adult female.—Length (skins), 190–212 (197); wing, 97–108 (100.3); tail, 92–104.5 (94.6); exposed culmen, 11.5–12.5 (11.8); tarsus, 20–22.5 (21.2); middle toe, 15–17 (15.9).[b]

Western Mexico, in States of Sonora (Alamos), Sinaloa (Plomosas), Chihuahua (Hacienda San Rafael; Bravo; Mina Abundancia; Durasno), Jalisco (Tonila; San Sebastián), Michoacán (Mount Tancítaro; Patambán; Patzcuaro), Morelos (Huitzilác, December) and western Oaxaca (Tlapancingo, December); Tres Marias Islands.

Myiadestes obscurus (not of Lafresnaye) BAIRD, Review Am. Birds, 1866, 430, part (Tonila, Jalisco; Tres Marias).—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 277 (Tres Marias).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 273 (Tonila; Tres Marias).

[*Myiadestes*] *obscurus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4, part.

M[yiadestes] obscurus BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 409, part.

Myiadectes obscurus SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 40, part (Tres Marias).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 373, part (in synonymy).

M[yadestes] obscurus var. *occidentalis* STEJNEGER, Proc. U. S. Nat. Mus., iv, Apr. 13, 1882, 371 (diagnosis).

Myadestes obscurus var. *occidentalis* STEJNEGER, Proc. U. S. Nat. Mus., iv, Apr. 13, 1882, 372, (Tonila, Jalisco; coll. U. S. Nat. Mus.).

M[yadestes] obscurus occidentalis RIDGWAY, Man. N. Am. Birds, 1887, 573.

Myadestes obscurus occidentalis JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 774 (San Marcos, Jalisco; crit.; song).

[*Myiedestes*] *occidentalis* SHARPE, Hand-list, iv, 1903, 113.

M[yadestes] obscurus var. *insularis* STEJNEGER, Proc. U. S. Nat. Mus., iv, Apr. 13, 1882, 371 (diagnosis).

Myadestes obscurus var. *insularis* STEJNEGER, Proc. U. S. Nat. Mus., iv, Apr. 13, 1882, 373 (Tres Marias Islands, w. Mexico; coll. U. S. Nat. Mus.).

M[yadestes] obscurus insularis RIDGWAY, Man. N. Am. Birds, 1887, 573.

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[a] Twenty-two specimens.

[b] Eight specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Jalisco and Michoacan	103.9	101.7	12.4	20.6	15.7
Seven adult males from Sonora and Chihuahua	101.5	99.4	12.2	20.1	15.9
Eight adult males from Tres Marias Islands	101.2	100	11.7	22.4	16.6
FEMALES.					
Four adult females from Jalisco and Michoacan	102.5	96.2	11.9	20.9	15.9
Two adult females from Sonora and Chihuahua	102.2	99	12	20	15.5
Three adult females from Tres Marias Islands	97.8	95.8	11.8	22	16

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Myadestes obscurus insularis NELSON, North Am. Fauna, no. 14, 1899, 59 (Tres Marias; habits; song; crit.).

[*Myiedestes*] *insularis* SHARPE, Hand-list, iv, 1903, 113.

Myadestes obscurus cinereus NELSON, Proc. Biol. Soc. Wash., xiii, May 29, 1899, 30 (mountains near Alamos, Sonora; coll. U. S. Nat. Mus.).

[*Myiedestes*] *cinereus* SHARPE, Hand-list, iv, 1903, 113.

MYADESTES UNICOLOR Sclater.

SLATE-COLORED SOLITAIRE.

Adults (*sexes alike*).—Above uniform slate color, sometimes more or less tinged with olive, especially on back and scapulars; tail (except median rectrices) black, the outermost rectrix with outer web (except basally) and terminal portion of second rectrix brownish gray, this usually tipped or terminally margined with white; remiges and larger wing-coverts black, edged with slate color, these slate-colored edgings interrupted on subbasal portion of secondaries, which is crossed by a wide bar or band of black; lores black or slate-black; a longitudinal mark of white on each eyelid; under parts similar in color to the upper surface, but paler (more slate-grayish), usually more or less distinctly paler on abdomen and chin (sometimes throat also), the feathers of chest, etc., with narrow and indistinct shaft-lines of paler gray; sides and flanks tinged with olive; under tail-coverts brownish gray or olive-gray margined with grayish white; inner webs of remiges crossed by a broad oblique band of white or whitish; bill black; legs and feet light brownish (in dried skins).

Adult male.—Length (skins), 171–190 (183); wing, 91.5–99 (92.7); tail, 80.5–94 (85.4); exposed culmen, 10.5–12 (10.9); tarsus, 20.5–21 (20.6); middle toe, 14.5–15.5 (14.9).[a]

Adult female.—Length (skins), 183–191 (188); wing, 95–97.5 (95.8); tail, 86.5–93.5 (89.5); exposed culmen, 11–12 (11.5); tarsus, 20–21.5 (20.7); middle toe, 15–15.5 (15.2).[b]

Southeastern Mexico, in States of Vera Cruz (Cordová; Orizaba; Jalapa; Motzorongo; Volcan de Tuxtla) and Chiapas (Tumbalá) and southward through highlands of Guatemala (Cobán; Choctún; forests of Petén) to mountains of northern Honduras (Santa Ana).[c]

Myiadestes unicolor SCLATER, Proc. Zool. Soc. Lond., 1856 (pub. Jan. 26, 1857), 299 (Cordová, Vera Cruz, Mexico; coll. A. Sallé); 397 (Cobán, Guatemala; descr. song); 1857, 5, 213 (Orizaba, Vera Cruz); 1858, 97 (s. Mexico; crit.); Cat. Am. Birds, 1862, 47 (Orizaba).—SALVIN and SCLATER, Ibis, 1860, 397 (Cobán, Guatemala; descr. song).—SCLATER and SALVIN, Exotic Orn., pt. iv, 1867, 51, pl. 26.—BAIRD, Review Am. Birds, 1866, 428 (Cordová; Choctún).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 548 (temperate reg. Vera Cruz).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 22, in text (Jalapa, Vera Cruz; song).

[a] Four specimens.

[b] Three specimens.

[c] The series of specimens examined is much too small to show whether there is any local variation within the range of this species as indicated above.

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[*Myiadestes*] *unicolor* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4.

M[yiadestes] unicolor BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 409.

Myiadectes unicolor SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 41.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 376.

M[yadestes] unicolor RIDGWAY, Man. N. Am. Birds, 1887, 573.

[*Myiedestes*] *unicolor* SHARPE, Hand-list, iv, 1903, 113.

[*Ptilogonys*] *unicolor* GRAY, Hand-list, i, 1869, 366, no. 5574.

MYADESTES MELANOPS Salvin.

BLACK-FACED SOLITAIRE.

Adult male.—General color plain slate color, darker (nearly blackish slate) above, paler (more slate-gray) below; forehead, lores, orbital region, malar region, chin, and upper throat uniform black; remiges (except tertials) and larger wing-coverts black; greater wing-coverts and terminal half of remiges edged with slate color or slate-gray, the basal portion of remiges crossed by a band of plain slate-gray, followed by a broader band of uniform black (this broken by narrow grayish edgings on primaries); tail black, the lateral rectrix with outer web (except basally) and terminal third (more or less) of inner web gray or brownish gray, the second rectrix with more or less of the same color at tip; shafts of lateral rectrices white on under side; inner webs of remiges crossed by a broad band of dull white; bill yellowish (bright orange in life); iris brown; legs and feet yellowish (orange in life); length (skins), 165–179 (173); wing, 84–91.5 (89); tail, 77–84 (79.5); exposed culmen, 10.5–13 (11.8); tarsus, 20-22 (20.8); middle toe, 14–15 (14.5).[a]

Adult female.—Similar to the adult male, and perhaps not always distinguishable, but usually slightly duller in color, with back, etc., slightly tinged with olive; length (skins), 166–179 (172); wing, 85–91 (88.2); tail, 67–81.5 (77.2); exposed culmen, 11–12 (11.6); tarsus, 18.5–21.5 (20.7); middle toe, 13.5–15 (14.6).[b]

Young.—Above dark sooty brown, each feather with subterminal median spot of light ochreous-brown or tawny (these markings narrower, more streak-like, on pileum, larger and less distinct on rump and upper tail-coverts), and margined terminally with sooty blackish; under parts similar, but the spots larger, especially on chest; remiges and rectrices as in adults.

Highlands of Costa Rica (Tucurrique; Dota Mountains; Rancho Redondo; La Palma; Navarro; San José; Volcan de Irazú; Peorsnada; Barranca; Cervantes) and Panama (Calovevora; Boquete; Volcan de Chiriquí).

Myiadestes melanops SALVIN, Proc. Zool. Soc. Lond., 1864 (pub. April 1, 1865), 580, pl. 36 (Tucurrique, Costa Rica; coll. Salvin and Godman); 1870, 180 (Calovevora and Cordillera del Chucu, Veragua).—BAIRD, Review Am.

[a] Ten specimens. [b] Nine specimens.

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Birds, 1866, 426 (Dota Mts. and Rancho Redondo, Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 97 (La Palma and Navarro, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 266 (Costa Rica; habits).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 51 (Navarro, Costa Rica; song).

[*Myiadestes*] *melanops* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4.

Myiadectes melanops SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 42 (Volcan de Irazú, etc., Costa Rica).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 376 (Calovevora, Veragua; Costa Rica).

Myadestes melanops BANGS, Proc. New Engl. Zool. Club, iii, 1902, 48 (Boquete and Volcan de Chiriquí, 4,000–7,500 ft.).

[*Myiedestes*] *melanops* SHARPE, Hand-list, iv, 1903, 113.

[*Ptilogonys*] *melanops* GRAY, Hand-list, i, 1869, 366, no. 5576.

MYADESTES ELISABETH (Lembeye).

CUBAN SOLITAIRE.

Adults (*sexes alike*).—Above plain grayish olive or hair brown; remiges (except tertials) and larger wing-coverts dusky, the greater coverts edged with color of back, the primaries with paler grayish brown, the secondaries broadly edged for terminal half (approximately) with more buffy brown (wood brown) and crossed at base by a broad band of the same color, the intervening space dusky, with grayish brown edgings; tail (except four middle rectrices) dusky, the lateral rectrix with outer web (except basally) and terminal third (more or less) of inner web pale brownish gray, broadly margined at tip with white; second rectrix with terminal portion pale brownish gray and white, the third sometimes with a whitish triangular spot at tip; a continuous orbital ring of white; lores dull brownish white; malar region and under parts dull white, shaded with pale brownish gray on chest, sides, and flanks, the last tinged with pale brown; a distinct submalar streak of dusky brownish gray along each side of throat; under wing-coverts pale dull buff; inner web of remiges crossed by a broad basal band of pale buff or buffy white; bill dusky, the basal half (more or less) of mandible pale-colored; iris brown; legs and feet pale brownish (in dried skins).

Young.—General color of upper parts as in adults, but broken by subterminal, mostly guttate, small spots of buff and indistinct dusky terminal margins to the feathers, including lesser and middle wing-coverts; under parts pale grayish buffy (at least on throat, chest, sides, and flanks),[a] with narrow terminal margins of dusky to feathers of chest, sides, and flanks; larger wing-coverts, remiges, and rectrices as in adults.

Adult male.—Length (skins), 176–178 (177); wing, 85.5–91.5 (89); tail, 83–88 (86); exposed culmen, 12–12.5 (12.3); tarsus, 20.5–23 (21.7); middle toe, 15.5.[b]

[a] The single specimen examined is full grown and has partially assumed the adult plumage.

[b] Three specimens.

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Adult female.—Wing, 90.5; tail, 82; exposed culmen, 12.5; tarsus, 22.5; middle toe, 15.5.[a]

Island of Cuba, Greater Antilles.

Muscicapa elisabeth LEMBEYE, Aves de la Isla de Cuba, 1850, 39, pl. 5, fig. 3.

Myiadestes elisabeth CABANIS, Journ. für Orn., iv, 1856, 2, part (Cuba; habits).—GUNDLACH, Ann. Lyc. N. Y., vi, 1858, 271; Journ. für Orn., 1861, 410; 1872, 428 (habits); Repert. Fisico-Nat. Cuba, i, 1865, 240; Orn. Cubana, 1873, 79; ed. 1893, 89.—BAIRD, Review Am. Birds, 1866, 425 (Donna del Gate and Monte Libano, Cuba).

[*Myiadestes*] *elisabeth* GUNDLACH, Journ. für Orn., 1861, 328.

Myiadestes elisabethi GOODE, Bull. U. S. Nat. Mus., no. 20, 1883, 330.

Myiadestes elizabeth CORY, Auk, iii, 1886, 13 (synonymy); Birds West Ind., 1889, 27.

[*Myiadestes*] *elizabeth* CORY, List West Ind. Birds, 1885, 5.

Myadestes elisabeth STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 26 (synonymy, etc.; descr. young).

Myadestes elizabeth CORY, Cat. West Ind. Birds, 1892, 20, 122, 129, part (Cuba).

Myiadestes elizabethæ NEWTON, Ibis, 1859, 110, in text.

Myiadestes elisabethae ALBRECHT, Journ. für Orn., 1861, 209 (crit.; habits, song, etc.).

Myiadestes elizabethæ SCLATER and SALVIN, Exotic Orn., pt. iv, 1867, 55, pl. 28.

[*Myiadestes*] *elizabethæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4.

Myiadectes elizabethæ SHARPE, Cat. Birds Brit. Mus., vi, 1881, 372.

[*Myiedestes*] *elizabethæ* SHARPE, Hand-list, iv, 1903, 113.

[*Ptilogonys*] *elizabeth* GRAY, Hand-list, i, 1869, 366, no. 5575.

MYADESTES ELISABETH RETRUSUS Bangs and Zappey.

ISLE OF PINES SOLITAIRE.

Similar to *M. e. elisabeth*, but bill smaller, narrower, and more pointed, and coloration clearer and grayer, the upper parts nearly mouse gray instead of deep hair brown or olive, the under parts nearly pure white passing into very pale clear gray on chest and sides of breast.

Adult male.—Length (skin), 175; wing, 88; tail, 83; exposed culmen, 11.5; tarsus, 23; middle toe, 16.[b]

Isle of Pines, near Cuba.

Myadestes elisabeth (not *Muscicapa elisabeth* Lembeye) CABANIS, Journ. für Orn., 1856, 2, part (Isle of Pines).

Myiadestes elizabeth CORY, Cat. West Ind. Birds, 1892, 122, 129, part (Isle of Pines).

Myadestes elizabeth retrusus BANGS and ZAPPEY, Am. Nat., xxxix, no. 460, April, 1905, 208 (Isle of Pines, near Cuba; coll. E. A. and O. Bangs).

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[a] One specimen.

[b] One specimen (the type).

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MYADESTES SOLITARIUS Baird.

JAMAICAN SOLITAIRE.

Similar to *M. genibarbis* (and subspecies), but decidedly larger (except feet) with tail relatively longer (usually longer than wing, instead of shorter); chin chestnut-rufous, like throat, or very slightly intermixed with white (mostly beneath surface); malar region black in middle portion (this confluent with black of suborbital and loral regions), usually with a little white or chestnut-rufous at its anterior extremity (malar apex);[a] abdomen pale gray, this sometimes tinged or slightly intermixed with cinnamon-rufous or ochraceous-rufous; no white streaks on auricular region.

Adult male.—Length (skins), 170–203 (191); wing, 91.5–96.5 (94.1); tail, 92–99 (95.5); exposed culmen, 11–12.5 (11.6); tarsus, 22–23.5 (22.7); middle toe, 14.5–15.5 (15).[b]

Adult female.—Length (skins), 174–194 (186); wing, 88.5–95.5 (92.2); tail, 86.5–95 (91.7); exposed culmen, 10–12 (11.2); tarsus, 22–23 (22.8); middle toe, 15–16 (15.5).[c]

Island of Jamaica and western portion of island of Haiti (Fort Jacques), Greater Antilles.

Ptiliogonys armillatus (not *Muscicapa armillata* Vieillot) Gray and Mitchell, Gen. Birds, i, 1846, pl. 69.

Ptiliogonys armillata Sclater, Proc. Zool. Soc. Lond., 1861, 73 (Jamaica).—Albrecht, Journ. für. Orn., 1862, 196 (Jamaica).

[*Muscicapa armillata*] Gosse, Birds Jamaica, 1847, 198.[d]

[*Myiadestes*] *armillatus* Bonaparte, Consp. Av., i, 1850, 335.

Myiadestes armillatus Sclater, Proc. Zool. Soc. Lond., 1857, 6; Cat. Am. Birds, 1862, 47, excl. syn. part (Jamaica).—March, Proc. Ac. Nat. Sci. Phila., 1863, 294.

Myiadestes solitarius Baird, Review Am. Birds, June 28, 1866, 421 (Port Royal Mts., Jamaica; coll U. S. Nat. Mus.).—Salvin, Cat. Strickland Coll., 1882, 61.—Cory, Auk, iii, 1886, 13 (synonymy); Birds West Ind., 1889, 27; Cat. West Ind. Birds, 1892, 122, 131.

[*Myiadestes*] *solitarius* Sclater and Salvin, Nom. Av. Neotr., 1873, 4.—Cory, List Birds West Ind., 1885, 5.

Myiadectes solitarius Sharpe, Cat. Birds Brit. Mus., vi, 1881, 369.

M[*yiadectes*] *solitarius* Newton (A. and E.), Handb. Jamaica, 1881, 107.

Myadestes solitarius Stejneger, Proc. U. S. Nat. Mus., v, 1882, 24, pl. 2, fig. 2 (monogr.).—Cory, Cat. West Ind. Birds, 1892, 20.—Scott, Auk, x, 1893, 341 (Jamaica, above 5,000 ft.).

[*Myiedestes*] *solitarius* Sharpe, Hand-list, iv, 1903, 112.

[*Ptilogonys*] *solitarius* Gray, Hand-list, i, 1869, 366, no. 5571.

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[a] Sometimes the malar region is entirely black, except the extreme posterior portion.

[b] Six specimens.

[c] Seven specimens.

[d] Gosse in reality cites three names for this species: *Muscicapa armillata* Vieillot, *Myiadestes genibarbis* Swainson, and *Ptilogonys armillatus* G. R. Gray, in the order given.

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Myiaaestes montanus CORY, Bull. Nutt. Orn. Club, vi, July, 1881, 130' (Fort Jacques,[a] Haiti; coll. C. B. Cory), 151 (Fort Jacques); Auk, iii, 1886, 12 (synonymy, description, etc.); Birds Haiti and San Dom., 1885, 52; Birds West Ind., 1889, 26; Cat. West Ind. Birds, 1893, 122, 131.

[*Myiadestes*] *montanus* CORY, List Birds West Ind., 1885, 5.

Myiadectes montanus SHARPE, Cat. Birds Brit. Mus., vi, 1881, 370.

Myadestes montanus STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 23, pl. 2, fig. 1.—CORY, Cat. West Ind. Birds, 1893, 20.

[*Myiedestes*] *montanus* SHARPE, Hand-list, iv, 1903, 112.

MYADESTES GENIBARBIS GENIBARBIS Swainson.

MARTINIQUE SOLITAIRE.

Adults (*sexes alike*).—Above, including tertials and middle rectrices, plain slate color, the latter with black shafts; middle wing-coverts black centrally; greater coverts, primary coverts, alula, and remiges (except secondaries) black with slate-colored edgings (these obsolete on primary coverts); rectrices (except middle pair) black, indistinctly edged with slate color, the three outermost with terminal portion of inner web white, the outer web first gray, then white, terminally;[b] lores and suborbital region black; a white crescentic mark on lower eyelid; auricular region slate color narrowly streaked with white; malar region white anteriorly passing posteriorly into cinnamon-rufous, some of the feathers with narrow tips of blackish; a black submalar streak along each side of upper throat; chin white, more or less tinged or broken by cinnamon-rufous; throat and upper chest deep cinnamon-rufous or chestnut-rufous, forming a large patch with convex posterior outline; lower chest, breast, and anterior portion of sides plain slate-gray, paler posteriorly, where tinged laterally, on flanks, with tawny-ochraceous; abdomen, anal region, and under tail-coverts tawny-ochraceous; thighs slate color or slate-gray; inner webs of remiges (except outermost primaries) crossed by a broad subbasal band of white; bill black; iris brown; legs and feet yellowish (in dried skins).

Young.—Above, including smaller wing-coverts, sooty blackish, the feathers with a subterminal guttate spot or streak of tawny-ochraceous; greater wing-coverts slate color, with a small terminal spot of ochraceous or buffy; remiges and rectrices as in adults; under parts pale cinnamon-rufous, the chin, throat, and under tail-coverts immaculate, the other portions with feathers margined with sooty blackish, producing a squamate appearance, most conspicuous on chest.

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[a] The type-locality not mentioned in the original description.

[b] On the outermost rectrix the white occupies, as a wedge-shaped area, between one-third and one-half the length of the inner web, while the outer web is gray for most of the exposed portion.

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Adult male.—Length (skins), 170–193 (180); wing, 87–91 (89); tail, 83–86 (85); exposed culmen, 11–13 (12); tarsus, 20.5–22 (21.2); middle toe, 14-14.5 (14.2).[a]

Adult female.—Length (skins), 163–186 (170); wing, 84.5–87 (86.2); tail, 78–84 (81.2); exposed culmen, 11–12.5 (11.6); tarsus, 21–22 (21.4); middle toe, 15–16 (15.6).[b]

Island of Martinique, Lesser Antilles.

(?) *Muscicapa armillata* (not of Vieillot, 1808 ?) VIEILLOT, Nouv. Dict. d'Hist Nat., xxi, 1818, 448, part ("Martinique;" descr. young).

Myadestes genibarbis SWAINSON, Naturalists' Library, xiii, Flycatchers, 1838, 134, pl. 13 (locality unknown).—LAFRESNAYE, Rev. Zool., ii, 1839, 98, 99, footnote, in text.—STEJNEGER. Proc. U. S. Nat. Mus., v., 1882, 18, pl. 2, fig. 3 (monogr.).

Myadestes genebarbis CORY, Cat. West Ind. Birds, 1892, 19.

Myiadestes genibarbis BAIRD, Review Am. Birds, 1866, 423, 424.—LAWRENCE, Proc. U. S. Nat. Mus., i, 1879, 352 (Martinique), 486, part (Martinique).—CORY, Auk, iii, 1886, 10; iv, 1887, 95 (Martinique); Birds West Ind., 1889, 24; Cat. West Ind. Birds, 1892, 122.

[*Myiadestes*] *genibarbis* CORY, List Birds West Ind., 1885, 5.

Myiadectes genibarbis SHARPE, Cat. Birds Brit. Mus., vi, 1881, 370, part (Martinique).

Myiadestes genebarbis CORY, Cat. West Ind. Birds, 1892, 133.

[*Myiedestes*] *genibarbis* SHARPE, Hand-list, iv, 1903, 112.

MYADESTES GENIBARBIS SANCTÆ-LUCIÆ (Stejneger).

SANTA LUCIA SOLITAIRE.

Similar to *M. g. genibarbis*, but chin and malar region more extensively white, more white on lateral rectrices (this occupying more than terminal half of inner web on outermost rectrix)[c], flanks less strongly (often scarcely at all) tinged with tawny-ochraceous, tawny-ochraceous of abdomen more restricted, and slate color of upper parts very slightly darker.

Adult male.—Length (skins), 164–185 (176); wing, 85–92 (89.5); tail, 82.5–92.5 (89.2); exposed culmen, 11.5–12 (11.7); tarsus, 21.5–22 (21.7); middle toe, 15.5–16 (15.6).[d]

Adult female.—Length (skins), 166–188 (178); wing, 89.5–92.5 (90.8); tail, 86–93.5 (89.6); exposed culmen, 11.5–12.5 (12); tarsus, 21–22.5 (21.8); middle toe, 14–16 (15.2).[e]

Island of Santa Lucia, Lesser Antilles.

Myiadestes genibarbis (not of Swainson) SCLATER, Proc. Zool. Soc. Lond., 1871, 269 (Santa Lucia; crit.).—SEMPER, Proc. Zool. Soc. Lond., 1872, 649 (Santa Lucia; habits; descr. song).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia).

[*Myiadestes*] *genibarbis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 4 (Santa Lucia).

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[a] Three specimens.
[b] Six specmens.
[c] At least in adult males.
[d] Four specimens.
[e] Five specimens.

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Myiadectes genibarbis SHARPE, Cat. Birds Brit. Mus., vi, 1881, 370, part (Santa Lucia).

Myadestes sanctæ-luciæ STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 20, pl. 2, fig. 4 (Santa Lucia, Lesser Antilles; coll. Mus. Comp. Zool.).—CORY, Cat. West Ind. Birds, 1892, 20.

[*Myiadestes*] *sanctæ-luciæ* CORY, List Birds West Ind., 1885, 5.

Myiadestes sanctæ-luciæ CORY, Ibis, 1886, 475; Auk, iii, 1886, 11; Birds West Ind., 1889, 25; Cat. West Ind. Birds, 1892, 122, 133.—SCLATER, Proc. Zool. Soc. Lond., 1889, 395.

[*Myiadestes*] *sanctæ-luciæ* SHARPE, Hand-list, iv, 1903, 112.

MYADESTES GENIBARBIS DOMINICANUS (Stejneger).

DOMINICA SOLITAIRE.

Similar to *M. g. sanctæ-luciæ*, but color of throat slightly darker (more chestnut-rufous), rufous of abdomen still more restricted, white of malar region (but not that of chin) more extended, and white streaks on auricular region broader. (Young similar to that of *M. g. genibarbis*.)

Adult male.—Length (skins), 171–197 (185); wing, 86.5–95 (90.9); tail, 85–95 (88.9); exposed culmen, 11.5–13 (12.1); tarsus, 21.5–23.5 (22.8); middle toe, 15–15.5 (15.2).[a]

Adult female.—Length (skins), 176–188 (184); wing, 89.5–94.5 (91.8); tail, 89–94.5 (91); exposed culmen, 11.5–12.5 (12.2); tarsus, 22–23.5 (22.7); middle toe, 15–15.5 (15.2).[b]

Island of Dominica, Lesser Antilles.

Myiadestes genibarbis (not of Swainson) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 53 (Dominica; habits; crit.); i, 1879, 486, part (Dominica); iii, 1880, 256 (Dominica).

[*Myiadestes*] *genibarbis* CORY, List Birds West Ind., 1885, 5.

Myiadectes genibarbis SHARPE, Cat. Birds Brit. Mus., vi, 1881, 370, part (Dominica).

Myadestes dominicanus STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 22, pl. 2, fig. 5 (Dominica, Lesser Antilles; coll. U. S. Nat. Mus.).—VERRILL (G. E.), Trans. Conn. Acad. Sci., viii, 1892, 344 (Dominica; habits; song; descr. nest and eggs).

Myadestes dominicanus CORY, Auk, iii, 1886, 11; Birds West Ind., 1889, 25; Cat. West Ind. Birds, 1892, 122, 133.—SCLATER, Proc. Zool. Soc. Lond., 1889, 326.

[*Myadestes*] *dominicanus* SHARPE, Hand-list, iv, 1903, 112.

MYADESTES GENIBARBIS CHERRIEI Ridgway.

SANTO DOMINGO SOLITAIRE.

Similar to *M. g. dominicanus*, but slightly smaller (except feet), with tail relatively decidedly shorter; rufous of throat slightly paler and brighter; rufous-tawny of abdomen more restricted; white streaks on auricular region narrower (sometimes nearly obsolete).

[a] Eight specimens. [b] Three specimens.

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Adult male.—Length (skins), 161–166 (163); wing, 85.5–90 (87.3); tail, 81–84 (82.8); exposed culmen, 11.5; tarsus, 21.5–23.5 (22.8); middle toe, 14.5–16.5 (15.8).[a]

Adult female.—Length (skin), 163; wing, ·87; tail, 81; exposed culmen, 11; tarsus, 22; middle toe, 15.[b]

Island of Haiti, Greater Antilles.

Myadestes montanus? CHERRIE, Pub. 10, Field Columb. Mus., Orn. Ser., i, no. 1, 1896, 9 (habits; song; crit.).

Myadestes genibarbis cherriei RIDGWAY, Smithsonian Misc. Coll. (quarterly issue), xlvii, Aug. 6, 1904, 112 (Catare, Santo Domingo; coll. Field Columbian Mus.)

MYADESTES ARMILLATUS (Vieillot).

YELLOW-THIGHED SOLITAIRE.

Apparently similar to the several forms of *M. genibarbis*, but differing in having the thighs yellow and the upper as well as the lower eyelid white.

Bill blackish; a white spot on the sides of the throat, and at its origin (the chin) immediately below the lower mandible (the two continuous); the eye surrounded by the same color. Head, back, rump, two intermediate tail-feathers, and the breast of a grayish slate, paler below. Wing and tail feathers blackish, bordered externally by gray, the three lateral on each side of the tail more or less white. Belly and hinder parts brownish rufous; a beautiful yellow in form of a bracelet on the feathers of lower part of leg; feet brown; length, 6 inches, 3 lines.[c]

The bird described by Vieillot has not yet been identified with any known species, and may very likely have been a specimen of one of the forms of *M. genibarbis* with the legs and feet of some entirely different bird attached to the skin. (See Stejneger, Proc. U. S. Nat. Mus., v, 1882, 25, 26.)

Habitat unknown.

Muscicapa armillata VIEILLOT, Ois. Am. Sept., ii, 1807, 69, pl. 42 ("Antilles"); Nouv. Dict. d'Hist. Nat., xxi, 1818, 448 ("Martinique"); Enc. Méth., ii, 1823, 824.

P[tilogonys] armillatus GRAY, Gen. Birds, i, 1846, 281 (not pl. 69!).

[Ptilogonys] armillatus GRAY, Hand-list, i, 1869, 366, no. 5577.

Myiadestes armillatus BAIRD, Review Am. Birds, 1866, 422 ("Martinique").—SCLATER, Proc. Zool. Soc. Lond., 1871, 270.—LAWRENCE, Ann. N. Y. Acad. Sci., i, 1878, 149.—CORY, Auk, iii, 1886, 14 (synonymy; crit.); Birds West Ind., 1889, 28; Cat. West Ind. Birds, 1892, 122.

Myiadectes armillatus SHARPE, Cat. Birds Brit. Mus., vi, 1881, 370, foot-note.

[Myiadestes] armillatus CORY, List Birds West Ind., 1885, 5.

Myadestes armillatus STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 25 (crit.).—CORY, Cat. Birds West Ind., 1892, 20, 122.

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[a] Three specimens.

[b] One specimen.

[c] Prof. Baird's translation of Vieillot's original description (in Ois. Am. Sept., i, p. 69).

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MYADESTES SIBILANS Lawrence.

SAINT VINCENT SOLITAIRE.

Similar in general appearance to *M. genibarbis* and *M. solitarius*, but upper parts sooty black (more olivaceous on rump), and color of throat much paler (tawny-ochraceous or light ochraceous-rufous).

Adults (*sexes alike*).—Above dull black or sooty black, passing into dusky olive on rump, upper tail-coverts, and middle rectrices; two exterior rectrices extensively white terminally, the white in form of a large wedge-shaped area, mostly confined to inner web, the third rectrix sometimes tipped with white; a white mark on lower eyelid; auricular region with minute whitish shaft-streaks (sometimes obsolete); anterior portion of malar region white, the remainder ochraceous-rufous; chin white; whole throat and upper median portion of chest uniform tawny-ochraceous or light ochraceous-rufous, forming a large patch with rounded posterior outline; rest of chest, breast, and anterior portion of sides ash gray (gray no. 6 or no. 7),[a] becoming paler posteriorly, usually more or less strongly tinged along the median line with tawny-ochraceous; sides and flanks paler gray, tinged with tawny-ochraceous; abdomen, anal region, and under tail-coverts uniform tawny-ochraceous; thighs slate-gray; inner webs of remiges (except outermost primaries) crossed by a band of white; bill black; iris brown; legs and feet yellowish (in dried skins).

Adult male.—Length (skins), 165–183 (176); wing, 84–89.5 (88); tail, 73–79 (75.7); exposed culmen, 11.5–12.5 (12.1); tarsus, 23–25.5 (24.6); middle toe, 14.5–16.5 (15.6).[b]

Adult female.—Length (skins), 175–185 (180); wing, 87.5–88 (87.7); tail, 70–78 (74); exposed culmen, 12.5; tarsus, 25; middle toe, 15.5–16.5 (16).[c]

Island of St. Vincent, Lesser Antilles.

Muscicapa armillata (not of Vieillot) Gosse, Birds Jamaica, 1847, 198, part (the St. Vincent bird referred to on pp. 201, 202).

Myiadestes sibilans Lawrence, Ann. N. Y. Acad. Sci., i, June, 1878, 148 (St. Vincent, Lesser Antilles; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., i, 1878, 188 (habits); i, 1879, 486.—Ober, Camps in the Caribbees, 1880, 199 (habits; song).—Lister, Ibis, 1880, 39.—Cory, Auk, iii, 1886, 9; Ibis, 1886, 472; Birds West Ind., 1889, 23; Cat. West Ind. Birds, 1892, 122, 134.

Myiadestes sibilans Sharpe, Cat. Birds Brit. Mus., vi, 1881, 371.

Myadestes sibilans Stejneger, Proc. U. S. Nat. Mus., v, 1882, 17, pl. 2, fig. 6.—Cory, Cat. Birds West Ind., 1892, 19.

[***Myiedestes***] ***sibilans*** Sharpe, Hand-list, iv, 1903, 112.

[a] Ridgway's Nomenclature of Colors.

[b] Five specimens.

[c] Two specimens.

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Family MIMIDÆ.

THE MOCKING BIRDS.

Slender-billed, ten-primaried, acutiplantar Oscines, with large tenth primary, obvious rictal bristles (except in *Calyptophilus*), loral feathers without bristly points, inner toe almost or wholly free at base from middle toe, and acrotarsium more or less distinctly scutellate.[a]

Bill exceedingly variable in shape and relative length, sometimes only half as long as head, sometimes longer than head, terete (except in *Calyptophilus*, in which conoid or subcuneate and much compressed), usually faintly decurved terminally, sometimes (in species of *Toxostoma*) conspicuously decurved, often straight or very nearly so; base of gonys always distinctly anterior to anterior end of nasal fossa (except in *Calyptophilus*); maxillary tomium more or less distinctly notched subterminally, except in genus *Toxostoma* only. Nasal fossæ rather short or small, largely occupied by the usually oval, ovate, or elliptical (rarely roundish) or nearly linear (horizontal) nostril, the latter always exposed, always overhung by membrane, usually in contact posteriorly with feathering of the frontal antiæ. Feathers of frontal antiæ and loral region without bristly points, usually soft and decumbent (erect and harsh only in *Calyptophilus*). Rictal bristles obvious (except in *Calyptophilus*), never very strong, usually rather weak and few in number. Wing variable as to relative length, but always more or less rounded, the outermost (tenth) primary usually at least half as long as the ninth (much less than half as long as ninth only in *Oroscoptes*), as long as longest secondaries only in *Calyptophilus*. Tail variable in relative length, but never distinctly shorter than distance from bend of wing to tip of longest secondaries, usually about as long as the wing or somewhat longer, sometimes much longer, always more or less rounded (graduated for nearly half its length in *Donacobius*). Tarsus variable in relative length (extremes being one-fourth as long as wing in *Allenia* and two-fifths as long in *Donacobius*), the acrotarsium always more or less distinctly scutellate, though the divisions are sometimes indistinct or even obsolete;[b] middle toe (without claw) always distinctly shorter than tarsus, usually about two-thirds as long (decidedly less than two-thirds as long only in *Nesomimus*, three-fourths as long only in *Allenia* and *Margarops*).

[a] In a few genera (*Galeoscoptes*, *Melanoptila*, and *Cinclocerthia*) the divisions of the acrotarsium are sometimes indistinct, but careful examination with a magnifying glass will reveal them, at least along the anterior edge or inner side. The same is true regarding the rictal bristles, which in some genera (notably *Cinclotherthia*) are very small and not easily seen by the unaided eye. In *Calyptophilus* alone they appear to be wholly wanting.

[b] That is to say, not easy to discover without aid of a magnifying lens.

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Lateral toes unequal (except in *Donacobius*),[a] the inner reaching (without claw) to the subterminal joint (articulation) of the middle toe, the outer slightly, but distinctly, longer; hallux shorter (or at least not longer) than inner toe; basal phalanx of middle toe united for half its length (or slightly more) to the outer toe, but almost wholly free from inner toe; claws normal in size and curvature (rather small and weak in *Oroscoptes*, larger and stouter or more strongly curved than usual in *Margarops* and *Cinclocerthia*).

Osteological characters of the Mimidæ[b] are as follows: Anteorbital region narrow; descending process of nasal narrow, the angle subtended by this process and the *pars plena* rather acute; maxillo-palatines claviform (except in *Galeoscoptes*); costal process of sternum moderate in size, somewhat acuminate; coracoid with a moderate flange on epicoracoidal portion; pelvis rather compressed, but with ilia inclined from the horizontal.

That the Mimidæ are distinct as a group from both the Troglodytidæ and Turdidæ, with each of which they have been associated, is shown by the following comparison of their most prominent osteological character, adapted from Mr. Lucas's paper, previously referred to:

COMPARISON OF OSTEOLOGICAL CHARACTERS OF TROGLODYTIDÆ, MIMIDÆ, AND TURDIDÆ.

a. Anteorbital region narrow; descending process of nasal narrow; costal process of sternum small or moderate, more or less acuminate; coracoid with a short or moderate flange on epicoracoidal portion; pelvis more or less compressed, with ilia inclined from the horizontal.

b. Descending process of nasal slender, the angle formed by this and the *pars plana* more open; maxillo-palatines acuminate posteriorly; costal process of sternum small, more acuminate; flange of coracoid shorter; ilia more inclined from the horizontal, the pelvis narrower posteriorly.....**Troglodytidæ.**

bb. Descending process of nasal narrow but not slender, the angle formed by this and the *pars plana* more acute; maxillo-palatines claviform (except in *Galeoscoptes*);[c] costal process of sternum longer, less acuminate; flange of coracoid longer; ilia less inclined from the horizontal, the pelvis broader anteriorly. **Mimidæ.**

aa. Anteorbital region wide; descending process of nasal wide; costal process of sternum large, blunt, rhomboidal in outline; coracoid with a wide flange running half way up the shaft; pelvis broad, flattened .....**Turdidæ.**

[a] The proportions of the toes in *Donacobius* are different from those of any other genus in the family, *both* lateral toes (which are equal in length) extending (without claw) to decidedly beyond the subterminal articulation of the middle toe, while the hallux is quite as long as the lateral toes.

[b] As given by Mr. F. A. Lucas, in Proc. U. S. Nat. Mus., xi, 1888, 178, 179.

[c] In *Galeoscoptes* the maxillo-palatines very nearly correspond in shape to those of the Turdidæ.

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The Mocking Thrushes are apparently most nearly related to the true Thrushes (Turdidæ), and evidently occupy an intermediate position between the latter and the Wrens (Troglodytidæ), though Mr. Lucas's investigation of their osteological structure[a] shows that they are not so nearly allied with the latter as with the former. According to Mr. Lucas the Mimidæ are, as a group, "fairly well marked," though *Galeoscoptes* is aberrant, "having a very characteristic shape to the maxillo-palatine process. This maxillo-palatine is so entirely different [in other Mimidæ] from that of the Wrens that from what little experience I have had I should hesitate to unite two groups so dissimilar in this respect. On the other hand, *Galeoscoptes* has such decided leanings toward the Thrushes, not only in its skull, but in other portions of the skeleton, that it would seem to connect them with the Miminæ. Be this as it may, *Galeoscoptes* is certainly nearer to the Thrushes than any other member of its group, while *Harporhynchus* [*i. e.*, *Toxostoma*] seems to be the farthest removed." Externally, the Mimidæ differ from the Turdidæ in their scutellate tarsi (though the divisions are, as previously stated, sometimes indistinct), and in their shorter, more rounded wings; from the Troglodytidæ, the most wren-like genera, differ in their well-developed rictal bristles and (all the genera) in having the inner toe entirely free at the base from the middle one.

In their habits and general appearance the Mocking Thrushes resemble both the true Thrushes and the Wrens. They are all songsters of greater or less merit, many of them being preeminent as vocalists, while some of the species of the genus *Mimus* are at least the most brilliant and remarkable vocalists of all birds.

The Mimidæ are an exclusively American group, most numerously represented, both as to genera and species, in Mexico. Only two of the fourteen genera occur in South America, which possesses but one genus (*Donacobius*) not found elsewhere. Five genera (*Margarops*, *Allenia*, *Ramphocinclus*, *Cinclocerthia*, and *Calyptophilus*)[b] are peculiar to the West Indies, one (*Nesomimus*) to the Galapagos Archipelago and one (*Mimodes*) to the island of Socorro, off northwestern Mexico. Two genera (*Galeoscoptes* and *Oroscoptes*) are peculiar to North America north of Mexico;[c] two (*Melanotis* and *Melanoptila*) are peculiar to Mexico, one (*Toxostoma*) is common to Mexico and the United States (best represented in the former and southwestern portion of the latter) while only one (*Mimus*) is found throughout the whole extent of the Neotropical Region and warmer portions of the Nearctic Region.

[a] See "Notes on the Osteology of the Thrushes, Miminæ, and Wrens." Proc. U. S. Nat. Mus., xi, 1888, pp. 173–180, pl. xxxvii.

[b] The last only provisionally placed here, but probably belonging to some other group or constituting a family by itself.

[c] So far as their breeding range is concerned.

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Altogether about fifty species and subspecies and fourteen genera are known

KEY TO THE GENERA OF MIMIDÆ.

a. Outermost (tenth) primary not more than two-thirds as long as longest secondaries, usually about half, sometimes less than half, as long; rictal bristles obvious, usually well developed; bill terete, usually more or less decurved terminally (sometimes strongly so), not deeper than broad at frontal antiæ; tarsus relatively narrower, its width at middle less than one-ninth its length; no yellow in plumage. (*Miminæ*.)

b. A large naked space on side of neck; tail graduated for nearly half its length.

Donacobius (extralimital).[a]

bb. No naked space on side of neck; tail graduated for less than one-fourth its length.

c. Tail longer than distance from bend of wing to tip of longest secondaries.

d. Middle toe (without claw) not more than two-thirds as long as tarsus (usually less).

e. Tenth (outermost) primary at least half as long as ninth, the latter shorter than fifth.

f. No trace of subterminal notch to maxillary tomium; bill sometimes strongly decurved terminally.....**Toxostoma** (p. 184)

ff. A more or less distinct subterminal notch to maxillary tomium; bill never strongly decurved.

g. Rectrices broader, their width equal to nearly (or more than) one-fifth their length; general color grayish blue or glossy black.

h. Bill relatively larger, the exposed culmen much longer than middle toe without claw; ninth primary shorter than secondaries; feathers of pileum distinctly outlined; color grayish blue or bluish gray, with or without white or under parts.....**Melanotis** (p. 209)

hh. Bill relatively smaller, the exposed culmen shorter than middle toe without claw; ninth primary equal to or longer than third; feathers of pileum blended; color entirely glossy black.

Melanoptila (p. 213)

gg. Rectrices narrower, their width less than one-seventh their length; general color neither grayish blue nor glossy black.

h. Tenth (outermost) primary larger, half as long as seventh, the ninth not longer than first; upper parts entirely plain brown.

Mimodes (p. 215)

hh. Tenth (outermost) primary smaller, less than half as long as eighth, the ninth longer than second; upper parts not entirely brown.

i. Tarsus shorter, the middle toe (without claw) much more than three-fifths (about two-thirds) as long; bill stouter, the nostril broader.

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[a] *Donacobius* Swainson, Zool. Illustr., 2d ser., ii, 1831 32, pl. 72. (Type, *D. vociferans* Swainson, = *Turdus atricapillus* Linnæus.) Confined to tropical South America, where represented by two forms.

Additional characters of *Donacobius* not shared by other Mimidæ are the peculiar proportions of the toes, the lateral ones being equal and both extending (without claw) decidedly beyond the subterminal joint of the middle toe, and the much elongated hallux, which quite equals the lateral toes in length; very short primaries, the longest extending beyond the longest secondaries by much less than half the length of the middle toe (without claw); excessive graduation of the tail, the difference in length between the lateral and middle rectrices equally the length of the tarsus, the latter, owing to abbreviation of the primaries, being two-fifths as long as the wing.

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j. Bill straighter terminally; under parts plain slate-gray, with chestnut on under-tail coverts; pileum black; no white on wings nor tail..... **Galeoscoptes** (p. 216)

jj. Bill more decurved terminally; under parts whitish, without chestnut on under tail-coverts; pileum gray or brown; more or less of white on wings and tail.....**Mimus** (p. 221)

ii. Tarsus longer, the middle toe (without claw) little if any more (usually less) than three-fifths as long; bill more slender, the nostril narrower.....**Nesomimus** (p. 244)

ee. Tenth (outermost) primary much less than half as long as ninth, the latter longer than fifth.....**Oroscoptes** (p. 258)

dd. Middle toe (without claw) more than two-thirds as long as tarsus.

c. Exposed culmen much shorter than middle toe (without claw), gradually curved from base; bill broad and depressed basally, its width at frontal antiæ equal to nearly half the length of exposed culmen; outermost (tenth) primary smaller, but little more than half as long as ninth; pileum, back, etc., uniform brown.....**Allenia** (p. 261)

ee. Exposed culmen equal in length to middle toe (without claw), nearly straight to near tip, where rather abruptly and strongly decurved; bill narrow and compressed basally, its width at frontal antiæ only about one-fourth the length of exposed culmen; outermost (tenth) primary larger, nearly half as long as eighth; pileum, back, etc., not uni-colored.....**Margarops** (p. 264)

cc. Tail not longer than distance from bend of wing to tip of longest secondaries.

d. Exposed culmen little if any longer than middle toe without claw; bill distinctly (though slightly) decurved terminally; rictal bristles distinct.....**Ramphocinclus** (p. 268)

dd. Exposed culmen decidedly longer than middle toe *with* claw, sometimes longer than tarsus; bill not decurved terminally; rictal bristles very indistinct (practically obsolete).....**Cinclocerthia** (p. 271)

aa. Outermost (tenth) primary nearly as long as longest secondaries; rictal bristles wanting; bill conoid or wedge-shaped (in lateral profile), much compressed (very much deeper than broad at base); tarsus relatively broader, its width at middle equal to about one-eighth its length; axillars, edge of wing, and spot on lores, yellow. (*Calyptophilinæ.*).....**Calyptophilus** (p. 278)

Genus TOXOSTOMA Wagler.

Toxostoma [a] WAGLER, Isis, May, 1831, 528. (Type, *T. vetula* Wagler=*Orpheus curvirostris* Swainson.)

Harpes [b] (not of Goldfuss, 1839) GAMBEL, Proc. Ac. Nat. Sci. Phila., ii, 1845, 264. (Type, *H. redivivus* Gambel.)

Harporhynchus [c] CABANIS, in Wiegmann's Archiv. für Naturg., 1847, i, 323: 1848 (i), 98. (To replace *Harpes* Gambel, preoccupied.)

Methriopterus REICHENBACH, Av. Syst. Nat., 1850, pl. 4. (Type, *Turdus rufus* Linnæus.)

Antimimus SUNDEVALL, Met. Nat. Av. Disp. Tent., 1872, 13. (Type, *Turdus rufus* Linnæus.)

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[a] *Toxostoma* Rafinesque, 1818, was a pure *nomen nudum* until November, 1831, when the type species was first described. See Richmond, Auk, xix, 1902, 89.

[b] "Ἅρπη, a sickle, hook, or bill."

[c] ἅρπη, a sickle, and ῥύγχος, bill.

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Large Mimidæ (length about 230–300 mm.) without any subterminal notch to maxillary tomium.

Bill about as long as or longer than head (exposed culmen slightly shorter than middle toe without claw to decidedly longer than middle toe *with* claw), more or less (sometimes conspicuously) decurved terminally, about as broad as high at base; maxillary tomium without trace of subterminal notch; gonys more or less concave (nearly straight in *T. rufum*). Nostril rather small, broadly oval or roundish, near middle of rather short nasal fossa, nearly (sometimes quite) surrounded by membrane. Rictal bristles well developed. Wing rather short and rounded, the longest primaries exceeding longest secondaries by less than length of middle toe without claw; outermost (tenth) primary about half as long as ninth or slightly more, sometimes more than half as long as longest primary; ninth primary shorter than or equal to secondaries, in some species longer than third primary; eighth to fifth primaries longest. Tail decidedly longer than wing (sometimes much longer), distinctly rounded, its graduation varying from much less than length of middle toe without claw (in *T. cinereum* and *T. bendirei*) to nearly the length of tarsus (in *T. ocellatum*), the acrotarsium distinctly scutellate; middle toe (without claw) about two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly beyond; hallux shorter than inner toe, but much stouter; basal phalanx of middle toe united to outer toe for about half its length, almost wholly free from inner toe.

Coloration.—Upper parts plain rufous, brown, or gray, with or without whitish wing-bands; under parts buff, whitish, pale brownish, or pale grayish, with or without darker streaks or spots; lateral rectrices with or without white or whitish tips. Young not essentially different from adults.

Nidification.—Nest open above, composed of twigs, etc., lined with fine rootlets or similar materials, placed in dense (often thorny) shrubs, small trees, or vine-growth, sometimes in brush piles or on ground. Eggs (3–5) usually speckled, sometimes immaculate light greenish blue.

Range.—Temperate and tropical North America, most numerously represented in Mexico. (Ten species, with additional subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF TOXOSTOMA.

a. Under parts more or less spotted or streaked.[a]

b. Above more or less rufescent brown; markings on under parts linear, more or less wedge-shaped on chest.

c. Above dull cinnamon-rufous; under tail-coverts entirely buff. (Eastern United States and Canada, west to base of Rocky Mountains.)

Toxostoma rufum (p. 187)

[a] The markings sometimes obsolete in very much worn midsummer plumage.

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cc. Above chestnut-brown, dull russet or grayish russet.

d. Larger (wing 93–106, tail 116–138); auricular region and sides of neck gray or grayish brown; under tail-coverts with distinct central markings of brown or dusky. (*Toxostoma longirostre.*)

e. Smaller, with larger bill (adult male averaging, wing 97.4, tail 124.1, exposed culmen 29.4; adult female, wing 98, tail 129.7, exposed culmen 30); upper parts chestnut-brown. (States of Vera Cruz, Puebla, Mexico, and Queretero, southeastern Mexico.)

Toxostoma longirostre longirostre (p. 191)

ee. Larger, with smaller bill (adult male averaging, wing 99.5, tail 125.7, exposed culmen 27.2; adult female, wing 98.9, tail 124.7, exposed culmen 26.2); upper parts grayish russet. (Southern Texas and northeastern Mexico.).....**Toxostoma longirostre sennetti** (p. 192)

dd. Smaller (wing 88.5–94.5, tail 105–113.5); auricular region and sides of neck rusty brown; under tail-coverts without brown or dusky central markings. (Otherwise like *T. longirostre longirostre.*) (Cozumel Island, Yucatan.).....**Toxostoma guttatum** (p. 193)

bb. Above grayish brown or brownish gray.

c. Tail 130–144; markings on lower parts large and roundish, even on flanks. (Southern Mexico, in States of Mexico, Puebla, and Oaxaca.)

Toxostoma ocellatum (p. 194)

cc. Tail less than 130; markings on under parts smaller, wedge-shaped or more or less linear.

d. Markings on under parts distinctly darker than color of back, at least on chest.

e. Triangular spots on chest, etc., black, blackish brown, or dusky. (*Toxostoma cinereum.*)

f. Paler, with spots on under parts smaller; back, etc., hair brown. (Cape district of Lower California.).....**Toxostoma cinereum cinereum** (p. 195)

ff. Darker, with spots on underparts larger and blacker; back, etc., sepia brown. (Western Lower California, in vicinity of San Quentin Bay.)

Toxostoma cinereum mearnsi (p. 196)

ee. Triangular spots or streaks on chest, etc., grayish brown, darker than color of back, but not approaching dusky. (Deserts of Arizona, southeastern California, and Sonora.).....**Toxostoma bendirei** (p. 197)

dd. Markings on under parts not darker than color of back. (*Toxostoma curvirostre.*)

e. Lateral rectrices broadly and abruptly tipped with white.

f. Smaller (adult male averaging wing 107.9, tail 109.5, exposed culmen 29.5; adult female, wing 104.9, tail 104.3, exposed culmen 28.6); upper parts grayer, under parts whiter. (Mexican plateau, except extreme northwestern portion, to southern Texas and New Mexico.)

Toxostoma curvirostre curvirostre (p. 199)

ff. Larger (adult male averaging wing 112.1, tail 120.5 exposed culmen 32.3; adult female, wing 110, tail 115, exposed culmen 31.5; upper parts browner, under parts more buffy. (Westen Mexico, in States of Sinaloa and Jalisco and Territory of Tepic.)

Toxostoma curvirostre occidentale (p. 201)

ee. Lateral rectrices not tipped with white.[a]

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[a] A terminal spot is sometimes more or less distinctly indicated, but is either very greatly restricted or without sharp definition, and pale grayish brown instead of white.

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f. Smaller and darker, with under parts much more distinctly spotted; adult male averaging wing 108.4, tail 114, exposed culmen 30.2; adult female, wing 102, tail 111.8, exposed culmen 29.7. (Southern Sonora and southwestern Chihuahua.)

Toxostoma curvirostre maculatum (p. 202)

ff. Larger and paler, with under parts much less distinctly spotted (the spots often obsolescent); adult male averaging wing 111, tail 119.3, exposed culmen 32.1; adult female, wing 109.8, tail 119.3, exposed culmen 31. (Arizona and Sonora.). **Toxostoma curvirostre palmeri** (p. 202)

aa. Under parts immaculate.

b. Under tail-coverts cinnamon-buff or tawny.

c. Larger and darker, the upper parts dark hair brown, the abdomen cinnamon-buffy; adult male averaging wing 102.6, tail 129.7, exposed culmen 36.3; adult female, wing 100.6, tail 127.2, exposed culmen 36.2. (California, west of Sierra Nevada, and northern Lower California.)

Toxostoma redivivum (p. 203)

cc. Smaller and paler, the upper parts pale brownish gray or grayish brown, the abdomen white or buffy white; adult male averaging wing 98.1, tail 121.7, exposed culmen 32.8; adult female, wing 95.4, tail 118.7, exposed culmen 32.7. (*Toxostoma lecontei*.)

d. Paler. (Desert region of southern California, Nevada, and Utah, Arizona, and northern Sonora.).....**Toxostoma lecontei lecontei** (p. 205)

dd. Darker. (Vicinity of Santa Rosalia Bay, Lower California.)

Toxostoma lecontei arenicola (p. 207)

bb. Under tail-coverts chestnut. (Western Texas to southeastern California, northern Lower California, and southern Utah and Nevada.)

Toxostoma crissale (p. 207)

TOXOSTOMA RUFUM (Linnæus).

BROWN THRASHER.

Adults (*sexes alike*).—Above plain dull cinnamon-rufous or tawny-rufous, becoming paler and duller on superciliary region and emarginated terminal portion of outer webs of primaries; middle and greater wing-coverts tipped with white (spring and summer) or pale buff (autumn and winter), producing two distinct bands across wing, each white or buffy band immediately preceded by a narrower and less distinct one of dusky; outermost rectrices indistinctly tipped with buff or buffy whitish (worn away in summer plumage); auricular region light rusty brown, narrowly streaked with dull whitish or pale buffy; malar region dull white or pale buff, usually more or less flecked with brown or dusky, especially on posterior portion; under parts pale buff, approaching buffy white on chin, throat, and abdomen (entirely buff in fresh autumnal and early winter plumage), the chest, sides, and flanks broadly streaked with brown or dusky,[a] the streaks smaller and narrowly wedge-shaped on upper chest, broader on sides of breast, longer on flanks; throat margined along each side by a series of blackish streaks, forming

[a] Frequently these streaks are all entirely dusky, but usually those on chest and sides of breast (especially the latter) are brown or dull rusty edged with dusky.

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a more or less distinct submalar stripe; bill dusky, the basal half (more or less) of mandible pale colored (fleshy in life); iris bright lemon or sulphur yellow; legs and feet light brown (in dried skins).

Young.—Essentially like adults but back (sometimes pileum and rump also) indistinctly streaked or spotted with dusky (the ground color of rump and upper tail-coverts paler and duller than in adults), tertials margined terminally with buffy, and streaks on under parts (always blackish) less sharply defined.

Adult male.—Length (skins), 235–293 (261); wing, 99.5–115 (106.2); tail, 116–137 (126.1); exposed culmen, 23–29 (25.5); tarsus, 33.5–35.5 (34.5); middle toe, 22–25 (23.4).[a]

Adult female.—Length (skins), 238–280 (260); wing, 95.5–114 (103.7); tail, 109–141 (123.4); exposed culmen, 22–29 (25.3); tarsus, 32.5–35 (33.7); middle toe, 21.5–24.5 (23.3).[b]

Eastern United States and southeastern Canada; northward to southern Maine (Oxford County), Vermont, New York, northern Ontario (Port Sydney, Elmsdale, etc.), Manitoba (Red River Valley, Big Plain, Riding Mountain, Swan River, etc.), and Saskatchewan (Fort Carlton, Forks of Saskatchewan); breeding southward to northern Florida (Wacissa River), Alabama (Coosada), Mississippi, and eastern Texas, westward to base of Rocky Mountains in Montana, Wyoming, and Colorado; wintering from North Carolina, southeastern Missouri, etc. (more rarely farther northward) to southern Florida and south-central Texas (Harris County, Bexar County, etc.).

[a] Twenty-three specimens.

[b] Fourteen specimens.

Specimens from the region of the Great Plains average larger and slightly paler in color of upper parts than those from more eastern localities, but, as well as I am able to judge from the rather unsatisfactory series of western examples, the difference is too inconstant to justify recognition of a western form. Average measurements are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from east of Allegheny Mountains	103.9	122.6	25.1	34.1	23.1
Three adult males from Illinois and Tennessee	102.8	125.3	24.5	35.2	23
Ten adult males from Great Plains (including Texas)	109.5	129.7	26.3	34.7	23.7
FEMALES.					
Six adult females from east of Allegheny Mountains	99.7	120.2	24.1	33.4	22.8
Two adult females from Illinois and Tennessee	101.7	114	25.7	34	24
Six adult females from Great Plains	108.2	128.2	26.7	34	23.5

If three males from Texas and one from Fort Rice, North Dakota (with tail ranging from 123.5 to 124.5), are transferred to the Mississippi Valley series, and one from Bloomington, Illinois (with tail measuring 132) transferred to the extreme western series, as possibly they should be, the difference in measurements would of course be much more pronounced.

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[*Turdus*] *rufus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 169 (based on *The Fox-coloured Thrush* Catesby, Nat. Hist. Carolina, i, 28, pl. 28); ed. 12, i, 1766, 293.—GMELIN, Syst. Nat., i, 1788, 812.—LATHAM, Index Orn., i, 1790, 338.

Turdus rufus VIEILLOT, Ois. Am. Sept., ii, 1807, 4, pl. 59.—WILSON, Am. Orn., ii, 1810, 83, pl. 14.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 33; Ann. Lyc. N. Y., ii, 1826, 75.—LESSON, Traité d'Orn., 1831, 408.—AUDUBON, Orn. Biog., ii, 1834, 102; v, 1839, 441, pl. 116.—THOMPSON, Nat. Hist. Vermont, 1853, 78.—GÄTKE, Journ. für Orn., 1856, 71 (Heligoland); Naumannia, 1858, 424 (do.).—DUBOIS, Ois. d'Eur., 1862, 51, pl. 51.

Orpheus rufus SWAINSON, Fauna Bor.-Am., ii 1831, 189. NUTTALL, Man. Orn. U. S. and Can., i, 1832, 328.—AUDUBON, Synopsis, 1839, 88; Birds Am., oct. ed., iii, 1841, 9, pl. 141.—TRIPPE, Proc. Essex Inst., vi, 1871, 115 (Minnesota).

Orphea rufa GOULD, Proc. Zool. Soc. Lond., 1834, 15.

Mimus rufus BONAPARTE, Geog. and Comp. List, 1838, 18.—HOY, Proc. Ac. Nat. Sci. Phila., vi, 1853, 309 (Wisconsin); Ann. Rep. Smithson. Inst. for 1864 (1865), 437.—WOODHOUSE, in Rep. Sitgreaves' Expl. Zuñi and Col. R., 1853, 73 (Indian Territory; Texas).

M[imus] rufus GRAY, Gen. Birds, i, 1847, 221.—MAXIMILIAN, Journ. für Orn. 1858, 180.

[*Mimus*] *rufus* GRAY, Hand-list, i, 1869, 263, no. 3851.

Toxostoma rufum CABANIS, in Wiegmann's Archiv. für Naturg., 1847 (i), 207.—BLASIUS, Ibis, 1862, 66 (Heligoland).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 327.—KNIGHT, Bull. Univ. Wyom. Agric. Ex. Sta., no. 55, 1902, 152 (e. and centr. Wyoming, summer resident). BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 438.—WILLIAMS (R. W., Jr.), Auk, xxi, 1904, 461 (Leon co., Florida, resident). TODD, Ann. Carnegie Mus., ii, 1904, 588 (Erie Co., Pennsylvania, breeding).—WOOD and FROTHINGHAM, Auk, xxii, 1905, 53 (Crawford and Oscoda counties, n. Michigan, breeding).—STOCKARD, Auk, xxii, 1905, 282 (Mississippi, breeding).—LEWIS, Auk, xxii, 1905, 314 (New York City, 1 spec. wintering).

[*Toxostoma*] *rufum* SHARPE, Hand-list, iv, 1903, 106.

[*Toxostoma*] *rufus* BONAPARTE, Consp. Av., i, 1850, 277.

Toxostoma rufa BRUHIN, Zool. Gart., 1871, 15.—RICHMOND, Auk, xix, 1902, 89, in text.

H[arporhynchus] rufus CABANIS, Mus. Hein., i, 1850, 82 (South Carolina).—COUES, Key N. Am. Birds, 2d ed., 1884, 251; 5th ed., i, 1903, 285.—RIDGWAY, Man. N. Am. Birds, 1887, 543.

[*Harporhynchus*] *rufus* COUES, Key N. Am. Birds, 1872, 75.

Harporhynchus rufus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 353; Cat. N. Am. Birds, 1859, no. 261; Review Am. Birds, 1864, 44.—SCLATER, Proc. Zool. Soc. Lond., 1859, 340 (monogr.); Cat. Am. Birds, 1862, 8 (synonymy).—VERRILL, Proc. Essex Inst., iii, 1862, 148 (Oxford Co., Maine, common, breeding).—BLAKISTON, Ibis, 1862, 5 (Forks of Saskatchewan); 1863, 67 (Fort Carlton).—HAYDEN, Trans. Am. Philos. Soc., xii, 1863, 163 (Nebraska, etc.).—McILWRAITH, Proc. Essex Inst., v, 1866, 87 (Hamilton, Ontario).—COOPER, Am. Nat., iii, 1869, 296 (upper Missouri R. to Rocky Mts.).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 258 (e. Florida, winter); iii, 1872, 174 (e. Kansas; e. Colorado, up to 7,500 ft.); Proc. Bost. Soc. N. H., xvii, 1874, 49 (upper Missouri R., etc.).—MAYNARD, Birds Florida, 1872, 21.—COUES, Check List, 1873, no. 75; 2d ed., 1882, no. 17; Birds Northwest, 1874, 9; Birds Col. Val., 1878, 61; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 551 (Pembina and Fort Buford, North Dakota).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874,

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37, pl. 3, fig. 1; iii, 1874, 500 (e. slope Rocky Mts., Colorado; Clear Lake, California, 1 spec., Sept., 1870).—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 57 (Denver, Colorado, May); Zool. Exp. W. 100th Merid., 1875, 154 (Denver).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 18 (descr. young).—BROWN (N. C.), Bull. Nutt. Orn. Club, iii, 1878, 170 (Coosada, Alabama, breeding).—LOOMIS, Bull. Nutt. Orn. Club, iv, 1879, 210 (Chester Co., South Carolina, resident).—MERRIAM, Bull. Nutt. Orn. Club, vi, 1881, 226 (Adirondacks, New York, breeding).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 13; Orn. Illinois, i, 1889, 104.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 353.—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 7 (Harris Co., Texas, winter); Our Native Birds, etc., i, 1893, 59, pl. 5, fig. 1.—BECKHAM, Bull. Nutt. Orn. Club, vii, 1882, 161 (Bayou Sara, Louisiana, breeding); Auk, ii, 1885, 140 (Pueblo, Colorado, abundant); Proc.U. S. Nat. Mus., x, 1888, 689 (San Antonio, Texas, winter).—BAILEY (H. B.), Bull. Nutt. Orn. Club, viii, 1883, 37 (St. Simons I., Georgia, breeding).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 153 (Colorado Springs, Colorado).—BICKNELL, Auk, i, 1884, 132 (song period).—SETON, Auk, iii, 1886, 327 (Red R. Valley, Big Plain, Riding Mt., and Swan R., w. Manitoba, summer resident).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 705.—COOKE, Bird Migr. Miss. Val., 1888, 268 (dates, etc.), Bull. 37, Col. Agric. Coll., 1897, 120 (Colorado, e. of mountains, up to 7,500 ft. summer resident).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 627 (Manitoba, common summer resident).—WHITE, Auk, x, 1893, 229 (Macinac I., Michigan, breeding).—BRIMLEY, Auk, x, 1893, 244 (winters at Raleigh, North Carolina).—WARREN (O. B.), Auk, xii, 1895, 192 (Marquette Co., n. Michigan).—THORNE, Auk, xii, 1895, 218 (Fort Keogh, Montana, abundant, breeding).—WAYNE, Auk, xii, 1895, 365 (Wacissa R., n. w. Florida, breeding).—GILMAN, Auk, xiii, 1896, 176 (Arlington, Massachusetts, 1 spec. Dec. 15, 1894).—WIDMANN, Auk, xiii, 1896, 218 (Dunklin Co., Missouri, winter resident); xix, 1902, 236 (Emmet Co., Michigan, summer resident).—JUDD, Yearbook U. S. Dept. Agric. for 1895 (1896), 411l-15, fig. 107 (range, habits, food, etc.).—BAGG, Auk, xvii, 1900, 178 (Vienna, Oneida Co., New York, common summer resident).—FLEMING, Auk, xviii, 1901, 44 (Port Sydney and Elmsdale, n. Ontario, rare).—CARY, Auk, xviii, 1901, 238 (Beaver Creek, Black Hills, Wyoming, breeding).—EMBODY, Bull. Dept. Geol. and N. H. Colgate Univ., 1901, 32 (Madison Co., New York, 1 spec. only, May 12, 1899).

Antimimus rufus SUNDEVALL, Meth. Av. Disp. Tent., 1872, 13.

M[ethriopterus] rufus RIDGWAY, Proc. U. S. Nat. Mus., v, June 5, 1882, 45, in text.—JORDAN, Man. Vertebr. E. U. S., 4th ed., 1884, 48.

[*Harporhynchus rufus*] var. *rufus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 36.

[*Harporhynchus rufus*] a. *rufus* COUES, Birds Col. Val.,1878, 63.

Harporrhynchus rufus HOWE, Contr. N. Am. Orn., ii, 1902, 21 (Vermont).

H[arporhynchus] longicauda BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 353, in text (Republican Fork, w. Kansas; coll. U. S. Nat. Mus.).

Harporhynchus longicauda BAIRD, Cat. N. Am. Birds, 1859, no. 261*a*.—STEVENSON, Prelim. Rep. U. S. Geol. Surv. Terr. for 1871 (1872), 464 (Colorado).

Harporhynchus rufus . . . var. *longicauda* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 179 (Colorado).

[*Harporhynchus rufus*] var. *longicauda* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 36.

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TOXOSTOMA LONGIROSTRE LONGIROSTRE (Lafresnaye).

LONG-BILLED THRASHER.

Similar to *T. rufum*, but color of upper parts darker and duller (nearer prouts brown than cinnamon-rufous), with sides of head and neck more grayish.

Adults (sexes alike).—Above plain dull rufous-brown (nearly prouts brown, becoming more chestnut-brown on rump, upper tail-coverts, tail, and secondaries), passing into grayish brown on forehead and into brownish gray on superciliary region, auricular region, and sides of neck, the auricular region finely streaked with whitish; middle and greater wing-coverts tipped with buff or buffy white, forming two distinct but narrow bands across wing, each immediately preceded by a narrower and much less distinct bar of dusky; lateral rectrices narrowly margined at tip with buffy (except in worn plumage); malar region whitish, more or less flecked or barred with grayish brown or dusky, especially the posterior portion; under parts buffy white (more strongly tinged with buff on chest and under tail-coverts) or pale buff; sides of throat margined with a series of black streaks, forming a broken submalar stripe; lower throat, chest, upper breast, sides, and flanks broadly streaked with black, the streaks shorter and more wedge-shaped on pectoral region, longer and more elliptical on flanks; under tail-coverts pale buff or brownish buff, each with a central, mostly concealed, wedge-shaped area of light brown, or buffy, this often with a V-shaped margin of dusky; bill dusky, with lower portion of mandibular rami pale colored (fleshy in life?); iris bright yellow; legs and feet horn color (in dried skins).

Young.—Essentially like adults but rump paler and indistinctly streaked with dusky, and blackish streaks of under parts less sharply defined.

Adult male.—Length (skins), 250–267 (262); wing, 95–99.5 (97.4); tail, 123–126 (124.1); exposed culmen, 27.5–31 (29.4); tarsus, 34.5–36 (35.1); middle toe, 22–24.5 (23.2).[a]

Adult female.—Length (skins), 263–265 (264); wing, 93–94.5 (93.7); tail, 120–125 (122.5); exposed culmen, 30–32 (31); tarsus, 34.5–35 (34.7); middle toe, 23–24 (23.5).[b]

Southeastern Mexico, in States of Vera Cruz (Jalapa; Miradór; Jico; Cordová; Orizaba), Queretaro (Jalpan), Mexico (City of Mexico) and Puebla (Metlaltoyuca).

[*Orpheus*] *longirostris* LAFRESNAYE, Rev. Zool., i, 1838, 55, in text ("Mexique et de la Californie"); Mag. de Zool., 2e ser., 1839, Ois., pl. 1; Isis, Bd. xxxvii, 1844, 409.

Toxostoma longirostre CABANIS, in Wiegmann's Archiv. für Naturg., 1847 (i), 207.

T[*urdus*] *longirostris* GRAY, Gen. Birds, i, 1847, 221.

[*Toxostoma*] *longirostris* BONAPARTE, Consp. Av., i, 1850, 277.

[a] Six specimens. [b] Two specimens.

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[*Toxostoma*] *longirostre* SHARPE, Hand-list, iv, 1903, 107.

H[*arporhynchus*] *longirostris* CABANIS, Mus. Hein., i, 1850, 81 (Mexico).—RIDGWAY, Man. N. Am. Birds, 1887, 544.

Harporhynchus longirostris BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 352, part (Jalapa, Vera Cruz); ed. 1860 (Birds N. Am.), pl. 52; Review Am. Birds, 1864, 44, part (Orizaba, Miradór, and Jalapa, Vera Cruz).—SCLATER, Proc. Zool. Soc. Lond., 1859, 339 (monogr.; Córdova, Vera Cruz), 362 (Jalapa, Vera Cruz); 1864, 172 (City of Mexico); Cat. Am. Birds, 1862, 8 (Mexico).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (temperate reg. Vera Cruz).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 31, part (Mexican localities and references).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 356, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 706, part.—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 21 (Jalapa, Vera Cruz; song).

[*Harporhynchus*] *longirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.

Mimus longirostris BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 328, part (Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Córdova, Vera Cruz).

[*Mimus*] *longirostris* GRAY, Hand-list, i, 1869, 263, no. 3852.

[*Harporhynchus rufus.*] Var. *longirostris* COUES, Key N. Am. Birds, 1872, 75, part.

Harporhynchus rufus. var. *longirostris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 39, part.

[*Harporhynchus rufus*] b. *longirostris* COUES, Birds Col. Val., 1878, 63, part.

Harporhynchus rufus longirostris GOODE, Bull. U. S. Nat. Mus., no. 20, 1883, 322, part.

M[*ethriopterus*] *longirostris* RIDGWAY, Proc. U. S. Nat. Mus., v, June 12, 1882, 45, in text.

TOXOSTOMA LONGIROSTRE SENNETTI (Ridgway).

SENNETT'S THRASHER.

Similar to *T. l. longirostre* but larger, with smaller bill, color of upper parts less rufescent, and under parts whiter.

Adult male.—Length (skins), 248–280 (267); wing, 95–103 (99.5); tail, 116–132 (125.7); exposed culmen, 25–30 (27.2); tarsus, 35–37 (35.5); middle toe, 23–25 (23.7).[a]

Adult female.—Length (skins), 250–275 (264); wing, 93–103 (98.9); tail, 122–128 (124.7); exposed culmen, 25–27.5 (26.2); tarsus, 33–37 (35.1); middle toe, 22.5–25 (23.6).[a]

Rio Grande Valley and southern Gulf coast of Texas (Nueces, Cameron, Hidalgo, Starr, Zapata, and Webb counties)—occasionally along coast to Galveston—and northeastern Mexico, in States of Tamaulipas (Matamoras; Nuevo Laredo; Camargo; Victoria; Alta Mira), Nuevo Leon (Monterey; Rodriguez; Santa Catarina; Linares), Coahuila (Sabinas), and San Luis Potosi (Rio Verde;[b] Hacienda Angostura).

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[a] Ten specimens.

[b] Two adult males from Rio Verde, San Luis Potosi, are equal to the largest examples of *T. l. sennetti* from Texas in size (wing 102.5–103.5, tail 133.5) but are brighter or more rufescent brown above, in this respect only agreeing better with *T. l. longirostre*. Two adult females from the same locality, while agreeing better in coloration with the southern form, are decidedly larger, having the wing 99.5–105.5, tail 136–138, instead of wing 93–94.5, tail 120–125, as in two females of *T. l. longirostre* from Vera Cruz and Puebla, respectively.

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Mimus longirostris (not *Orpheus longirostris* Lafresnaye) BAIRD, Stansbury's Rep. Gt. Salt Lake, 1852, 328, part.

Harporhynchus longirostris (not of Cabanis) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 352, part (Brownsville, Texas, and lower Rio Grande); ed. 1860 (Birds N. Am.), atlas, pl. 52; Cat. N. Am. Birds, 1859, no. 260; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 13, pl. 14 (Brownsville, etc.); Review Am. Birds, 1864, 44, part (Brownsville, etc.).—BUTCHER, Proc. Ac. Nat. Sci. Phila., 1868, 149 (Laredo, Texas).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 3, fig. 2.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 31, part (Rio Grande valley).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 356, part (Rio Grande valley).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 706, part.—HANCOCK, Bull. Ridgway Orn. Club, no. 2, 1887, 22 (Galveston, Texas, 1 spec.; Corpus Christi, Texas, breeding).—NEHRLING, Our Native Birds, etc., i, 1893, 64.—JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 775 (Hacienda Angostura, San Luis Potosi).

[*Harporhynchus rufus.*] Var. *longirostris* COUES, Key N. Am. Birds, 1872, 75, part.

Harporhynchus rufus . . . var. *longirostris* COUES, Check List, 1873, no. 10*a*.

[*Harporhynchus rufus*] b. *longirostris* COUES, Birds Col. Val.,1878, 63, part.

Harporhynchus rufus, var. *longirostris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 39, part.—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 119 (Fort Brown, Texas; habits; descr. nest and eggs).

Harporhynchus rufus longirostris SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 1, 1878, 3 (Brownsville and Hidalgo, Texas; habits, etc.); v, no. 3, 1879, 372 (Lomita Ranch, Texas).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 13*a*.—COUES, Check List, 2d ed., 1882, no. 18.

H[arporhynchus r[ufus] longirostris COUES, Key N. Am. Birds, 2d ed., 1884, 251.

Harporhynchus longirostris sennetti RIDGWAY, Proc. U. S. Nat. Mus., x, Aug. 6, 1888, 506 (Lomita Ranch, Texas; coll. U. S. Nat. Mus.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 706.

H[arporhynchus] longirostris sennetti RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 544.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 285.

Toxostoma longirostris sennetti RICHMOND, Auk, xix, Jan., 1902, 89, in text.

Toxostoma longirostre sennetti AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, July, 1902, 327.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 438.

[*Toxostoma*] *sennetti* SHARPE, Hand-list, iv, 1903, 107.

TOXOSTOMA GUTTATUM (Ridgway).

COZUMEL THRASHER.

Similar to *T. longirostre longirostre*, but much smaller, and with sides of head and neck paler and browner (less gray), mandible entirely blackish or with a mere trace of lighter color on lower basal portion, legs and feet darker (deep or dusky horn color in dried skins), and under tail-coverts without darker central markings.

Adult male.—Length (skins), 234–253 (239); wing, 88.5–94.5 (90.6 tail, 105–113.5 (107.6); exposed culmen, 27.5–29 (28.1); tarsus, 30.5–31.5 (30.7); middle toe, 20–21 (20.5).[a]

Adult female.—Length (skins), 208–242 (228); wing, 83–85.5 (84.3); tail, 92.5–103.5 (97.2); exposed culmen, 26.5–29 (27.3); tarsus, 29.5–32 (31); middle toe, 20–20.5 (20.3).[b]

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a Four specimens. *b* Three specimens.

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Island of Cozumel, Yucatan.

Harporhynchus guttatus RIDGWAY, Descr. New Species Birds from Cozumel, Feb. 26, 1885, 1 (Cozumel I., Yucatan; coll. U. S. Nat. Mus.); Proc. Biol. Soc. Washington, iii, Feb. 26, 1885, 21; Proc. U. S. Nat. Mus., viii, Oct. 17, 1885, 561.—SALVIN, Ibis, 1888, 244 (Cozumel; crit.).

H[arporhynchus] guttatus RIDGWAY, Man. N. Am. Birds, 1887, 544.

[*Toxostoma*] *guttatum* SHARPE, Hand-list, iv, 1903, 107.

Harporhynchus melanostoma SALVIN, Ibis, 5th ser., x, Apr., 1885, 187 (Cozumel I., Yucatan; coll. Salvin and Godman; habits).

TOXOSTOMA OCELLATUM (Sclater).

OCELLATED THRASHER.

Adults (*sexes alike*).—Above plain deep hair brown, inclining to olive; three or four lateral rectrices rather narrowly tipped with white, the white tip usually preceded by a narrow bar of dusky; middle and greater wing-coverts tipped with a triangular spot of white; an indistinct superciliary stripe of dull-brownish white or pale brownish buff; lores similar but more or less tinged or mottled with grayish or dusky; auricular region broccoli brown, with very narrow shaft-streaks of paler; upper anterior portion of malar region blackish, producing a more or less distinct triangular patch, encroaching somewhat on suborbital region; rest of malar region dull white, forming a distinct stripe; a more or less distinct, usually interrupted, submalar stripe of blackish; under parts dull white, or buffy white, passing into dull buff posteriorly, the flanks tinged with brown; chest, breast, sides, and flanks boldly spotted with black, the spots very large, subrounded, on chest usually more or less transverse; under tail-coverts with smaller, more or less concealed. spots or irregular markings of blackish; bill blackish, usually paler (more horn colored) on basal portions of gonys; legs and feet light horn color (in dried skins).

Adult male.—Length (skins), 280–290 (285.5); wing, 100–104 (102.7); tail, 136–144 (140.7); exposed culmen, 32–33.5 (33); tarsus, 37–38.5 (37.9); middle toe, 23–25 (24.2).[a]

Adult female.—Length (skins), 270–275 (272.5); wing, 96–99 (97.5); tail, 130–135 (132.5); exposed culmen, 31–33 (32); tarsus, 35.5–36.5 (36); middle toe, 23.5–24 (23.7).[b]

South-central Mexico, in States of Puebla (Mount Orizaba; Chalchicomula; San Martin), Mexico (near City of Mexico), and Oaxaca (City of Oaxaca).

Harporhynchus ocellatus SCLATER, Proc. Zool. Soc., Lond., 1862, 18, pl. 3 (Oaxaca, s. w. Mexico; coll. P. L. Sclater); Cat. Am. Birds, 1862, Suppl. no. 49* (do.). BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, iii, 1874, 499 (crit.).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, i, 1879, 32; Ibis, 1889, 234 (near City of Mexico).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 357.—RIDGWAY, Ibis, 1883, 399 (crit.).

[a] Four specimens. [b] Two specimens.

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[*Harporhynchus*] *ocellatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.
H[*arporhynchus*] *ocellatus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 36.—RIDGWAY, Man. N. Am. Birds, 1887, 544.
[*Mimus*] *ocellatus* GRAY, Hand. list, i, 1869, 263, no. 3849.
M[*ethriopterus*] *ocellatus* RIDGWAY, Proc. U. S. Nat. Mus., v, sig. 3, June 12, 1882, 45, in text.
[*Toxostoma*] *ocellatum* SHARPE, Hand-list, iv, 1903, 107.

TOXOSTOMA CINEREUM CINEREUM (Xantus).

SAN LUCAS THRASHER.

Most nearly related to *T. bendirei*, but bill larger and spots on under parts much larger and blackish instead of grayish brown.[a]

Adults in spring and summer.—Above plain grayish brown (hair brown or between hair brown and broccoli brown), more decidedly brown (wood brown) on rump and upper tail-coverts, the remiges and rectrices darker; middle and greater wing-coverts more or less distinctly tipped with paler, usually with white, forming two narrow bands;[b] remiges edged with paler grayish brown, these edgings approaching dull whitish on primaries; inner web of outermost rectrix broadly tipped with dull white, the outer web more narrowly tipped with the same; other rectrices (except middle pair) similarly marked but the whitish tip narrower; sides of head dull whitish, the auricular region streaked, the suborbital and malar regions flecked or barred, with grayish brown; under parts buffy white, passing into pale buff on posterior flanks, anal region, and under tail-coverts; chest marked with triangular or wedge-shaped spots of black or blackish brown, the breast, sides, and upper abdomen similarly but more sparsely marked; throat margined along each side by a more or less distinct series of small wedge-shaped spots or streaks of blackish; bill dusky horn color or blackish, the basal third (more or less) of mandible light brownish (in dried skins); iris yellow; tarsi horn color (in dried skins), the toes more dusky.

Adults in autumn and winter.—Similar to the spring and summer plumage, but color of upper parts grayer, and tertials margined terminally with whitish.

Young.—Essentially like adults, but pileum, hindneck, and back light buffy grayish brown (between broccoli brown and wood brown), passing into cinnamon on rump and upper tail-coverts; middle and greater wing-coverts tipped with cinnamon-buff, the tertials margined terminally with the same; markings on under parts much smaller, more linear.

[a] The coloration of this species presents a remarkable resemblance to that of *Oroscoptes montanus*.

[b] These bands sometimes obsolete, especially in worn midsummer plumage.

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Adult male.—Length (skins), 214–250 (235); wing, 96–104.5 (101.5); tail, 98–109 (105.3); exposed culmen, 24.5–29 (27.8); tarsus, 33–34.5 (33.6); middle toe, 21.5–24 (23.3).[a]

Adult female.—Length (skins), 217–243 (233); wing, 95.5–102.5 (99.3); tail, 101.5–110.5 (105); exposed culmen, 27–28.5 (27.7); tarsus, 30–33 (31.8); middle toe, 21–23.5 (22.5).[a]

Cape district of Lower California (Cape San Lucas; San José del Cabo; La Paz), northward along Pacific coast to about 30 miles north of Todos Santos.

Harporhynchus cinereus XANTUS, Proc. Ac. Nat. Sci. Phila., xi, Nov., 1859, 298 (Cape San Lucas, Lower California; coll. U. S. Nat. Mus.).—BAIRD, Proc. Ac. Nat. Sci. Phila., xi, 1859, 301, 303, 304; Review Am. Birds, 1864, 46.—SCLATER, Cat. Am. Birds, 1862, 8.—ELLIOT, Illustr. New and Unfig. Birds N. Am., 1869, pl. 1.—COOPER, Orn. Cal., i, 1870, 19 (Cape San Lucas).—COUES, Check List, 1873, no. 12; 2d ed., 1882, no. 22; Am. Nat., vii, 1873, 327, 331 (crit.); Birds Col. Val., 1878, 68, footnote.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 40, pl. 4, fig. 2.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 14.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 355 (La Paz, Lower California.—BELDING, Proc. U. S. Nat. Mus., vi, 1883, 345 (Pacific coast, Lower California, from Cape San Lucas to 30 miles north of Todos Santos).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 709.—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., xiii, 1890, 136 (Cape San Lucas).

[*Harporhynchus*] *cinereus* COUES, Key N. Am. Birds, 1872, 75.

H[*arporhynchus*] *cinereus* COUES, Key N. Am. Birds, 2d ed., 1884, 253; 5th ed., i, 1903, 287.—RIDGWAY, Man. N. Am. Birds, 1887, 544.

M[*ethriopterus*] *cinereus* RIDGWAY, Proc. U. S. Nat. Mus., v, sig. 3, June 12, 1882, 45, in text.

Methriopterus cinereus RIDGWAY and BELDING, Proc. U. S. Nat. Mus., v, 1882, 534 (La Paz and San José, Lower California).

Toxostoma cinerea RICHMOND, Auk, xix, Jan., 1902, 89, in text.

Toxostoma cinereum AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, July, 1902, 328.—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 195 (Cape San Lucas district, up to 3,000 ft.; descriptions; descr. nest and eggs).

[*Toxostoma*] *cinereum* SHARPE, Hand-list, iv, 1903, 106.

TOXOSTOMA CINEREUM MEARNSI (Anthony).

MEARNS' THRASHER.

Similar to *T. c. cinereum*, but much darker, the upper parts dark hair brown or between hair brown and sepia (rump and upper tail-coverts between mars brown and raw umber), the under parts pale buff, deepening into ochraceous-buff on flanks, anal region, and under tail-coverts, and black markings on chest, etc., much larger.

Adult (*male?*)—Length (skin), 240; wing, 106; tail, 109; exposed culmen, 27; tarsus, 33; middle toe, 25.[b]

Vicinity of San Quentin Bay, west-central Lower California (San Quentin; San Fernando).

[a] Seven specimens. [b] One specimen (the type).

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Harporhynchus cinereus mearnsi ANTHONY, Auk, xii, Jan., 1895, 53 (San Quentin, Lower California; coll. A. W. Anthony); Auk, xii, 1895, 142 (San Fernando, San Quentin, etc.).—AMERICAN ONITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 709*a*.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 609.

H[arporhynchus] c[inereus] mearnsi COUES, Key N. Am. Birds, 5th ed., i, 1903, 288.

Toxostoma cinerea mearnsi RICHMOND, Auk, xix, Jan., 1902, 89, in text.

Toxostoma cinereum mearnsi AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, July, 1902, 328.

[*Toxostoma*] *mearnsi* SHARPE, Hand-list, iv, 1903, 106.

TOXOSTOMA BENDIREI (Coues).

BENDIRE'S THRASHER.

Similar in coloration to *T. curvirostris palmeri* but browner above and with spots on chest smaller, more sharply defined, and more triangular, and proportions very different.

Adults in spring and summer.—Above plain light grayish brown (light hair brown or between hair brown and broccoli brown), the rump and upper tail-coverts paler, more wood brown, the remiges and rectrices slightly darker; middle and greater wing-coverts indistinctly tipped with paler, and remiges narrowly edged with the same; inner web of exterior rectrices rather broadly tipped with dull white or brownish white, the outer web much more narrowly tipped or terminally margined with the same—the remaining rectrices (except middle pair) similarly tipped with whitish, but to a less extent, gradually disappearing toward middle rectrices; sides of head similar in color to upper parts but superciliary and loral regions paler, and auricular region narrowly streaked with dull whitish; malar region and under parts dull buffy white or pale brownish buff, passing into decided brownish buff or pale buffy wood brown on flanks, anal region, and lower tail-coverts; chest (sometimes sides of lower throat also) with sharply defined small wedge-shaped streaks of grayish brown, the breast more sparsely marked with more roundish spots of a paler grayish brown, the flanks sometimes indistinctly streaked with the same; sides of throat margined with a more or less distinct series of wedge-shaped streaks or small spots of grayish brown; axillars and under wing-coverts light buffy wood brown; bill dusky horn color or blackish, with basal third (approximately) of mandible pale brownish; iris yellow; tarsi light brownish (in dried skins), the toes darker.[a]

Adults in autumn and winter.—Similar to the spring and summer plumage, but color of upper parts grayer (between hair brown and drab-gray), tertials margined terminally with dull whitish, and markings on chest darker.

[a] According to Mr. F. Stephens the legs are "dull bluish" in life. (Bull. Nutt. Orn. Club, vii, 1882, 70).

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Young.—Essentially like summer adults but lower back, rump, and upper tail-coverts (especially the last) more cinnamomeous (cinnamomeous wood brown), remiges and rectrices much darker (dark grayish brown), tertials broadly margined with buffy wood brown or grayish buff, larger wing-coverts broadly and distinctly (but not abruptly) tipped with cinnamon-buff, and under parts (except chin, throat, and abdomen) narrowly streaked with grayish brown.

Adult male.—Length (skins), 232–247 (240); wing, 103–107.5 (105.7); tail, 108–115 (111.4); exposed culmen, 21.5–25.5 (24.3); tarsus, 33–34.5 (33.8); middle toe, 22–24 (23.2).[a]

Adult female.—Length (skins), 227–247 (235); wing, 97.5–1805. (103.2); tail, 101.5–115.5 (107.8); exposed culmen, 21.5–25.5 (23.4); tarsus, 31.5–34.5 (33.2); middle toe, 21.5–24.5 (22.7).[b]

Desert districts (Upper and Lower Sonoran zones) of Arizona, southeastern California (Colorado Desert) and northern Sonora (Ortiz); southward in winter to southern Sonora (Guaymas; Camoa; Alamos), and northern Sinaloa (Culiacan); accidental in Colorado (Austins Bluff, near Colorado Springs, one specimen, May 8, 1882).

Harporhynchus bendirei COUES, Am. Nat., vii, June, 1873, 330, footnote (Tucson, Arizona; coll., Dr. E. Coues[c]); Check List, 1873, no. 11 bis.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, iii, 1874, 500.—BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 65 (Tucson, Arizona; crit.; habits); vii, 1882, 69 (Camp Lowell and Tucson, Arizona; crit.; habits; descr. nest and eggs).—BELDING, Proc. U. S. Nat. Mus., vi, 1884, 343 (Guaymas, Sonora).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 708.—SCOTT, Auk, v, 1888, 161 (s. Arizona; habits; song).—COOKE, Bull. 37, Col. Agric. Coll., 1897, 120 (Colorado Springs, Colorado, 1 spec., May 8, 1882).—BROWN (H.), Auk, xviii, 1901, 225–231 (range; habits; descr. nest and eggs).—HELLER, Condor, iii, 1901, 100 (Warrens Wells, Colorado Desert, California, May).

Harporhynchus bendiri BREWER, Proc. Bost. Soc. Nat. Hist., xvi, 1873, 108 (descr. eggs).

Harporhynchus bendirii COUES, Birds Col. Vol., 1878, 67; Check List, 2d ed., 1882, no. 21.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 356.—BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 57, 153 (Austins Bluff, near Colorado Springs, Colorado, 1 spec., May 8, 1882).

H[arporhynchus] bendirii COUES, Key N. Am. Birds, 2d ed., 1884, 252.

H[arporhynchus] bendirei RIDGWAY, Man. N. Am. Birds, 1887, 545.—NEHRLING, Our Native Birds, i, 1893, 65.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 287.

Harporhynchus cinereus . . . var. *bendirei* HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1875, 154 (s. e. Arizona); Zool. Exp. W. 100th Merid., 1875, 154 (crit.; Camp Lowell, Arizona).

Harporhynchus cinereus bendirei RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 167, 214; Nom. N. Am. Birds, 1881, no. 14*a*.

M[ethriopterus] bendirei RIDGWAY, Proc. U. S. Nat. Mus., v, sig. 3, June 12, 1882, 45, in text.

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[a] Ten specimens.

[b] Eight specimens.

[c] The types afterwards presented to the collection of the U. S. National Museum.

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Toxostoma bendirei RICHMOND, Auk, xix, Jan., 1902, 89, in text.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 328.—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 67 (Agua Caliente and Warrens Wells, s. e. California).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 439.
[*Toxostoma*] *bendirei* SHARPE, Hand-list, iv, 1904, 107.

TOXOSTOMA CURVIROSTRE CURVIROSTRE (Swainson).

CURVE-BILLED THRASHER.

Adults in spring and summer.—Above plain brownish gray (drab-gray); middle and greater wing-coverts narrowly tipped with white, forming two narrow, sometimes indistinct (rarely obsolete) bands; outer webs of alulæ edged terminally with white; lateral rectrices abruptly tipped with white, this broader on inner web (about 8–13 mm. wide on that of outermost rectrix); superciliary region and auricular region somewhat lighter gray than upper parts, the latter usually finely and indistinctly streaked with white; malar region dull white, more or less flecked with gray; under parts buffy white, deepening into pale brownish buff on flanks, anal region, and under tail-coverts, the chest, breast, and upper abdomen spotted with pale brownish gray, the sides nearly uniformly this color; bill blackish or dusky, the lower basal portion of mandible more or less distinctly paler; iris orange or orange-yellow; legs and feet horn color (in dried skins).

Adults in autumn and winter.—Similar to the spring and summer plumage, but gray of upper parts deeper and less brownish (between drab-gray and smoke gray), and spots on under parts larger and deeper gray.

Young.—Essentially like adults, but upper parts browner, middle and greater wing-coverts narrowly tipped with grayish buffy instead of white, terminal spot of lateral rectrices confined to inner web, much less sharply defined, and pale grayish buffy instead of white, and markings on under parts more longitudinal or streak-like.

Adult male.—Length (skins), 236–272 (259); wing, 102–113 (107.9); tail, 105.5–113 (109.5); exposed culmen, 27–32 (29.5); tarsus, 32–35 (33.1); middle toe, 22.5–25.5 (24).[a]

Adult female.—Length (skins), 230–263 (245); wing, 98.5–113 (104.9); tail, 99–113.5 (104.3); exposed culmen, 27.5–29.5 (28.6); tarsus, 31.5–35 (33); middle toe, 22.5–25 (23.8).[a]

Rio Grande Valley of Texas (Cameron, Hidalgo, Starr, Zapata, Webb, and Maverick counties), southern Gulf coast of Texas (Nueces, San Patricio, and Refugio counties), and eastern New Mexico (north to San Miguel County) southward over Mexican plateau eastward of the Sierra Madre, through States of Tamaulipas, Nuevo Leon, Coahuila (Sabinas), San Louis Potosi (Ramos), Chihuahua (Santa Rosalia; Colonia Garcia; Chihuahua City), Durango (Durango City; El Salto;

[a] Ten specimens.

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Papasquiero), Zacatecas, eastern Jalisco (Ocotlan; Etzatlan; San Cristobal; Bolaños), etc., to Colima (Colima), Michoacan (Querendero; Patzcuaro; Tinguindin), Guerrero (Tlalixquatilla), Oaxaca (Oaxaca City; Cuicatlan), Puebla (Chalchicomula; Tehuacan; Ahualulco; Charcas; Chietla), and Vera Cruz (Perote).

Orpheus curvirostris SWAINSON, Philos. Mag., new ser., i, 1827, 369 (table-land of Mexico; coll. Bullock Mus.).—GAMBEL, Journ. Ac. Nat. Sci. Phila., i, 1847, 43, in text.—McCALL, Proc. Ac. Nat. Sci. Phila., 1848, 63 (Matamoras, Tamaulipas).

M[imus] curvirostris GRAY, Gen. Birds, i, 1847, 221.

[*Mimus*] *curvirostris* GRAY, Hand-list, i, 1869, 263, no. 3845.

[*Toxostoma*] *curvirostris* BONAPARTE, Consp. Av., i, 1850, 277.

Toxostoma curvirostris LAWRENCE, Ann. Lyc. N. Y., vi, 1852, 223 (Texas).—BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 329 (Matamoras).—RICHMOND, Auk, xix, 1902, 89, in text

Toxostoma curvirostre SCLATER, Proc. Zool. Soc. Lond., 1857, 212 ("Orizaba," Vera Cruz).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 328.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 439.

[*Toxostoma*] *curvirostre* SHARPE, Hand-list, iv, 1903, 107.

H[arporhynchus] curvirostris CABANIS, Mus. Hein., ii, 1850, 81, footnote.—COUES, Key N. Am. Birds, 2d ed., 1884, 252; 5th ed., i, 1903, 286.—RIDGWAY, Man. N. Am. Birds, 1887, 545.—NEHRLING, Our Native Birds, etc., i, 1893, 65.

Harporhynchus curvirostris BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 351; ed. 1860 (Birds N. Am.), atlas, pl. 51; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 12, pl. 13 (Eagle Pass and Ringgold Barracks, Texas); Cat. N. Am. Birds, 1859, no. 259; Review Am. Birds, 1864, 45, part (Texas localities; e. Mexico; "Mirador;" "Orizaba;" "Cordova;" Colima).—SCLATER, Proc. Zool. Soc. Lond., 1859, 339 (monogr.), 370 (Oaxaca; crit.); Cat. Am. Birds, 1862, 7 (n. Mexico; synonymy).—DRESSER, Ibis, 1865, 482 (s. Texas, n. to Nueces R.; Eagle Pass; Matamoras).—BUTCHER, Proc. Ac. Nat. Sci. Phila., 1868, 149 (Laredo, Texas).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (plateau of Mexico, but probably *not* Mirador, Orizaba, or Cordova, as cited by Baird, Review Am. Birds, p. 45).—COUES, Am. Nat., vii, 1873, 328 (crit.); Check List, 2d ed., 1882, no. 19.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 41, part, pl. 3, fig. 3.—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 12 (Tehuacan, Puebla).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 119 (Fort Brown, Texas; habits; descr. nest and eggs). SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 1, 1878, 4 (Brownsville and Hidalgo, Texas; habits, etc.); v, 1879, 373 (Lomita Ranch, Texas; habits; descr. nest and eggs, etc.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 32, part (table-land; Tamaulipas; mountains of Colima; Temascaltepec; "Orizaba"; Oaxaca; Tehuacan; Cuernavaca).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 359, excl. syn. part.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 15; Proc. U. S. Nat. Mus., ix, 1886, 132 (Chietla, Puebla; crit.).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 132 (Chietla, Puebla).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 707.—JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 775 (Ahualulco and Charcas, Puebla; color of iris, etc.).—WILSON (S. S.), Auk, xvi, 1899, 189 (San Miguel Co., New Mexico, breeding).—CARROLL, Auk, xvii, 1900, 348 (Refugio Co., Texas, summer resident).—CLARK (J. H.), Auk, xxi, 1904, 214 (Ramos, San Luis Potosi, 8,000 ft.; descr. nest and eggs).

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M[ethriopterus] curvirostris RIDGWAY, Proc. U. S. Nat. Mus., v, June 12, 1882, 45, in text.

[*Harporhynchus*] *curvirostris* COUES, Key N. Am. Birds, 1872, 75, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part.

[*Harporhynchus curvirostris*] var. *curvirostris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 36, part.

[*Harporhynchus curvirostris palmeri*] a. *curvirostris* COUES, Birds Col. Val., 1878, 64, 65.

Pomatorhinus turdinus TEMMINCK, Pl. Col., livr., 1827, pl. 441 ("New Holland"—error).

Turdus deflexus LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 2; Journ. für Orn., 1863, 57 (reprint).

(?) *Toxostoma vetula* WAGLER, Isis, 1831, 528 (Mexico). [May be the same as *T. c. palmeri.*]

H[arporhynchus] vetulus CABANIS, Mus. Hein., i, 1850, 81, footnote.

[*Harporhynchus*] *vetulus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1882, 49 (Mexico).

TOXOSTOMA CURVIROSTRE OCCIDENTALE (Ridgway).

MAZATLAN THRASHER.

Similar to *T. c. curvirostre*, but larger, with relatively longer tail; color of upper parts browner (hair brown or nearly broccoli brown instead of drab-gray); under parts more buffy, the under tail-coverts deeper buff (ochraceous-buff); white tips to lateral rectrices averaging narrower, but equally sharply defined.

Adult male.—Length (skins), 257–289 (274.4); wing, 109–116.5 (112); tail, 114–125.5 (120.5); exposed culmen, 29.5–34.5 (32.3); tarsus, 31.5–36 (34.3); middle toe, 24.5–27 (25.1).[a]

Adult female.—Length (skin), 255; wing, 110; tail, 115; exposed culmen, 31.5; tarsus, 34.5; middle toe, 24.[b]

Coast district of western Mexico, in States of Sinaloa (Mazatlan; Rosario; Altata; Culiacan) and Jalisco (Bolaños;[c] San Cristobal;[d] Sierra Nevada) and Territory of Tepic.

Harporhynchus curvirostris (not *Orpheus curvirostris* Swainson) BAIRD, Review Am. Birds, 1864, 45, part (Mazatlan).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 267 (Mazatlan; Tepic).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 41, part (Mazatlan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 32 (Mazatlan; Tepic).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 358, part (in synonymy).

(?) [*Harporhynchus*] *curvirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part.

[*Harporhynchus curvirostris*] var. *curvirostris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 36, part.

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[a] Seven specimens.

[b] One specimen.

[c] Some specimens from Bolaños agree better in measurements and coloration of upper parts with *T. c. curvirostre.*

[d] Specimens from San Cristobal are perhaps nearer *T. c. curvirostre*, both as to measurements and coloration.

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Methriopterus curvirostris occidentalis RIDGWAY, Proc. U. S. Nat. Mus., v, June 5, 1882, 9 (Mazatlan, Sinaloa, w. Mexico; coll. U. S. Nat. Mus.).

H[arporhynchus] curvirostris occidentalis RIDGWAY, Man. N. Am. Birds, 1887, 545.

Harporhynchus curvirostris occidentalis LANTZ, Trans. Kans. Ac. Sci., for 1896–97 (1899), 223 (Altata and Culiacan, Sinaloa).

[*Toxostoma*] *occidentale* SHARPE, Hand-list, iv, 1903, 107.

TOXOSTOMA CURVIROSTRE MACULATUM (Nelson).

SPOTTED THRASHER.

Similar to *T. c. occidentale*, but smaller (only slightly larger than *T. c. curvirostre*), lateral rectrices not abruptly tipped with white (in this character agreeing with *T. c. palmeri*) or else with the white tip much reduced in extent, lighter color of under parts more strongly buffy, and chest more strongly shaded with brownish gray.

Adult male.—Length (skins), 240–272 (256); wing, 105–112 (108.4); tail, 107–122 (114); exposed culmen, 27–31.5 (30.2); tarsus, 32.5–35 (33.6); middle toe, 22–25.5 (23.9).[a]

Adult female.—Length (skins), 240–252 (248); wing, 100.5–103.5 (102); tail, 110–114.5 (111.8); exposed culmen, 28.5–30.5 (29.7); tarsus, 32–34.5 (33); middle toe, 23–24 (23.5).[b]

Northwestern Mexico, in southern Sonora (Alamos; Camoa; Guaymas) and southwestern Chihuahua (Batopilas).

Harporhynchus palmeri (not *Harporhynchus curvirostris* var. *palmeri* Coues) BELDING, Proc. U. S. Nat. Mus., vi, 1883, 343 (Guaymas, Sonora).

(?) *Harporhynchus curvirostris* (not *Orpheus curvirostris* Swainson) LANTZ, Trans. Kans. Ac. Sci. for 1896–97 (1899), 223 (Florido, Sonora).

Harporhynchus curvirostris maculatus NELSON, Auk, xvii, July, 1900, 269 (Alamos, Sonora; coll. U. S. Nat. Mus.).

[*Toxostoma*] *maculatum* SHARPE, Hand-list, iv, 1903, 107.

TOXOSTOMA CURVIROSTRE PALMERI (Coues).

PALMER'S THRASHER.

Similar to *T. c. maculatum*, but fulvous of under tail-coverts, etc., paler (pinkish buff to pale dull ochraceous-buff), breast, etc., usually less distinctly spotted (sometimes nearly uniform).

Adult male.—Length (skins), 253–280 (267); wing, 106.5–116 (111); tail, 113–123 (119.3); exposed culmen, 29.5–33.5 (32.1); tarsus, 30–35 (33.1); middle toe, 22.5–25 (24).[c]

Adult female.—Length (skins), 250–266 (258); wing, 99–115.5 (108.9); tail, 108–125 (118.5); exposed culmen, 28.5–32.5 (31); tarsus, 32–35.5 (33.5); middle toe, 22.5–25.5 (23.9).[c]

Southern Arizona (north to about 50 miles northwest of Phoenix), southwestern New Mexico (Grant County), northwestern Chihuahua (Nacory), and northern Sonora (El Plomo, breeding; Batamotal; Magdalena; Poso de Luis; Sonoyta; Oputo; Altar).

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[a] Nine specimens. [b] Three specimens. [c] Ten specimens.

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(?) *Toxostoma vetula* WAGLER, Isis, 1831, 528 (Mexico).

Toxostoma vetula BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 352, in text ("New Mexico," i. e. Arizona).

Harporhynchus vetula BAIRD, Cat. N. Am. Birds, 1859, no. 259*a*.

Harporhynchus curvirostris (not *Orpheus curvirostris* Swainson) HEERMANN, Rep. Pacific R. R. Surv., x, no. 1, 1859, 11 (Tucson, Arizona).

Harporhynchus curvirostris COUES, Proc. Ac. Nat. Sci. Phila., xx, 1868, 83 (Arizona).—ALLEN, Bull. Am. Mus. N. H., v, 1893, 41 (Oputo, Sonora, Sept., Nov.; Nacory, n. w. Chihuahua, Nov.).

[*Harporhynchus*] *curvirostris* COUES, Key N. Am. Birds, 1872, 75, part. — (?) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part.

[*Harporhynchus curvirostris.*] Var. *palmeri* COUES, Key N. Am. Birds, Oct., 1872, 351, in text (ex "Ridgw. MS."; Tucson, Arizona; coll. U. S. Nat. Mus.).

[*H*]*arporhynchus curvirostris* var. *palmeri* COUES, Am. Nat., vii, 1873, 331, footnote, in text (crit.).

Harporhynchus curvirostris . . . var. *palmeri* COUES, Check List, 1873, no. 11.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 154 (Arizona); Zool. Exp. W. 100th Merid., 1875, 156 (Camp Lowell, etc., Arizona; habits).

Harporhynchus curvirostris, var. *palmeri* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 43; iii, 1874, 500 (Tucson, Arizona; crit.).

[*Harporhynchus curvirostris palmeri*] b. *palmeri* COUES, Birds Col. Val., 1878, 65.

Harporhynchus curvirostris palmeri RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 167, 215; Nom. N. Am. Birds, 1881, no. 15*a*.—COUES, Check List, 2d ed., 1882, no. 20.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 71 (Camp Lowell and Tucson; habits; descr. nest and eggs); Auk, ii, 1885, 196 (Altar, n. w. Sonora).—ANTHONY, Auk, viii, 1892, 368 (Apache and Hachita, s. w. New Mexico).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 707*a*.—SCOTT, Auk, v, 1888, 161 (s. Arizona, up to 3,000 ft., resident; nesting habits).—CLARK (J. H.), Auk, xv, 1898, 272 (El Plomo, n. Sonora, breeding; habits; descr. nest and eggs); xxi, 1904, 214 (do.).

H[*arporhynchus*] *c*[*urvirostris*] *palmeri* COUES, Key N. Am. Birds, 2d ed., 1884, 252; 5th ed., i, 1903, 286.—BROWN (H.), Auk, v, 1888, 116–118 (nesting habits).

H[*arporhynchus*] *curvirostris palmeri* RIDGWAY, Man. N. Am. Birds, 1887, 545.

M[*ethriopterus*] *palmeri* RIDGWAY, Proc. U. S. Nat. Mus., v, sig. 3, June 12, 1882, 45, in text.

Harporhynchus palmeri SHARPE, Cat. Birds Brit. Mus., vi, 1881, 359.

Toxostoma curvirostris palmeri RICHMOND, Auk, xix, Jan., 1902, 89, in text.

Toxostoma curvirostre palmeri AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, July, 1902, 328.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 59 (Huachuca Mts., Arizona, breeding up to 5,000 ft.).

T[*oxostoma*] *c*[*urvirostre*] *palmeri* BAILEY, Handb. Birds W. U. S., 1902, 439.

[*Toxostoma*] *palmeri* SHARPE, Hand-list, iv, 1903, 107.

TOXOSTOMA REDIVIVUM (Gambel).

CALIFORNIA THRASHER.

Adults (*sexes alike*).[a]—Above plain deep grayish brown (dark broccoli brown), the upper tail-coverts and tail more decidedly brown

[a] The seasonal differences in coloration in this species are, according to the material examined (about thirty adults) not sufficiently marked to justify separate descriptions. In worn midsummer plumage the brown of the upper parts is more decidedly brown, and the grayish brown color of the chest is less pronounced; but as late as June the coloration is practically the same as in autumn and winter.

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(approaching sepia); primaries narrowly edged with paler grayish brown, and larger wing-coverts usually more or less distinctly margined at tip with the same; an indistinct superciliary stripe of pale grayish buff or pale buffy grayish brown; auricular and suborbital regions dusky grayish brown, narrowly but conspicuously streaked with dull buffy whitish; malar region pale grayish buff or dull buffy whitish, more or less flecked with dusky; chin and throat pale buff, pinkish buff or buffy white, margined along each side by an indistinct (often obsolete) dusky submalar streak; chest, sides of breast, and sides pale grayish brown (grayish isabella color to grayish drab), becoming browner on flanks; median portion of breast and upper abdomen pale buff to cinnamon-buff, becoming deeper cinnamon-buff on lower abdomen and passing into cinnamon on under tail-coverts; bill blackish, the lower basal portion of mandible usually paler or more brownish; iris brown; legs and feet brownish or dusky (in dried skins).

Young.—Essentially like adults but browner above, with larger wing-coverts and tertials margined terminally with lighter cinnamon-brownish, the rectrices more or less rusty brownish terminally; chest less grayish (more brownish), sometimes only slightly different from general color of under parts.

Adult male.—Length (skins), 270–297 (284); wing, 97–106.5 (102.6); tail, 120–138 (129.7); exposed culmen, 32–39.5 (36.3); tarsus, 35–40.5 (38.2); middle toe, 22–26.5 (24.5).[a]

Adult female.—Length (skins), 260–292 (278); wing, 96–105.5 (100.6); tail,124–132.5 (127.2); exposed culmen, 34–39 (36.2); tarsus, 35.5–38.5 (37.2); middle toe, 23–26 (24.2).[b]

Coast and interior valleys of California and northern Lower California; northward to Shasta County, southward to San Quentin Bay, San Fernando, and San Pedro Martir Mountains.

Harpes rediviva GAMBEL, Proc. Ac. Nat. Sci. Phila., ii, 1845, 264 (Monterey, California; quotes *Promerops de la Calyfornie Septentrionale* La Perouse, Voy., Atl., pl. 37); iii, 1846, 112 (crit.).

T[*oxostoma*] *rediviva* GAMBEL, Journ. Ac. Nat. Sci. Phila., ii, 1847, 42 (description).

Toxostoma rediviva BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 328 (Monterey).—HEERMANN, Journ. Ac. Nat. Sci. Phila., 2d ser., ii, 1853, 264 (San Diego; Cosumnes R.; song).—CASSIN, Illustr. Birds Cal., Tex., etc., 1855, 260, pl. 42.—SCLATER, Proc. Zool. Soc. Lond., 1857, 126 (San José Valley, California).—RICHMOND, Auk, xix, 1902, 89, in text.

Toxostoma rediviva rediviva GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 67 (range).

[*Toxostoma*] *rediviva* BONAPARTE, Consp. Av., i, 1850, 277.

Toxostoma redivivum SCLATER, Proc. Zool. Soc. Lond., 1857, 126.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 328.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 440.

[*Toxostoma*] *redivivum* SHARPE, Hand-list, iv, 1903, 107.

[a] Thirteen specimens.

[b] Seven specimens.

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Harporhynchus redivivus CABANIS, in Wiegmann's Archiv. für Naturg., 1848 (i), 98.—BAIRD, Rep. Pacific R.R. Surv., ix, 1858, 349; Cat. N. Am. Birds, 1859, no. 256; Review Am. Birds, 1864, 48.—SCLATER, Proc. Zool. Soc. Lond., 1859, 339 (monogr.).—COOPER, Orn. Cal., 1870, 15; Proc. Cal. Ac. Sci., 1875, 4 (Saticoy, Ventura Co.).—COUES, Am. Nat., vii, 1873, 327 (crit.); Check List, 1873, no. 13; 2d ed., 1882, no. 23; Birds Col. Val., 1878, 71.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 45, pl. 4, fig. 4.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 16.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 360 (Big Trees, Santa Cruz, California).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 528 (San Quentin Bay, Lower California).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 710.—MORCOM, Bull. Ridgway Orn. Club, no. 2, 1887, 53 (San Bernardino Valley).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 225 (Baird, Shasta Co., 1 spec., Jan. 3, 1884).—NEHRLING, Our Native Birds, etc., i, 1893, 66.—ANTHONY, Zoe, iv, 1893, 245 (San Pedro Martir Mts., Lower California, at 7,000 ft.); Auk, xii, 1895, 142 (San Fernando, Lower California).—MERRIAM (F. A.), Auk, xiii, 1896, 121 (Twin Oaks, San Diego Co.; habits).—GRINNELL (J.), Pub. ii, Pasadena Ac. Sci., 1898, 47 (Los Angeles Co., resident up to 6,000 ft.).

H[arporhynchus] redivivus CABANIS, Mus. Hein., i, 1850, 81, footnote.—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 45 (diagnosis); Man. N. Am. Birds, 1887, 546.—COUES, Key N. Am. Birds, 2d ed., 1884, 253; 5th ed., i, 1903, 288.

[*Harporhynchus*] *redivivus* COUES, Key N. Am. Birds, 1872, 75.

[*Mimus*] *redivivus* GRAY, Hand-list, i, 1869, 263, no. 3846.

[*Harporhynchus redivivus*] var. *redivivus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 37.

Harporhynchus redivivus pasadenensis GRINNELL (J.), Auk, xv, July, 1898, 237 (Pasadena, Los Angeles Co., s. California; coll. J. Grinnell); Condor, ii, 1900, 19 (account of early nesting).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 123 (check list no. 710*a*).

H[arporhynchus] r[edivivus] pasadenensis COUES, Key N. Am. Birds, 5th ed., i, 1903, 288.

Toxostoma rediviva pasadenensis RICHMOND, Auk, xix, Jan., 1902, 89, in text.—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 67 (range).

T[oxostoma] r[edivivum] pasadenense BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 441.

[*Toxostoma*] *pasadenense* SHARPE, Hand-list, iv, 1903, 108.

TOXOSTOMA LECONTEI LECONTEI Lawrence.

LE CONTE'S THRASHER

Adults in spring and summer.—Above plain pale grayish brown (between drab-gray and ecru-drab), the primaries edged with still paler; middle rectrices slightly darker grayish brown; other rectrices deep grayish brown (dark hair brown), the exterior ones broadly tipped with pale grayish brown; auricular region pale grayish brown, narrowly streaked with whitish and dusky; malar region whitish, transversely mottled or barred with dusky; chin, throat, breast, and upper abdomen dull white, margined laterally by a more or less distinct submalar streak of dusky; rest of under parts very pale buffy grayish, posteriorly passing into deep buff or pale ochraceous-buff on hinder flanks, anal region, and under tail-coverts, the lower abdomen and anterior flanks tinged with buff; bill blackish, iris reddish brown, legs and

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feet dusky horn color in dried skins, "varying from plumbeous-brown to greenish olive" in life.[a]

Adults in autumn and winter.—Similar to the spring and summer plumage but color of upper parts deeper and grayer (soft drab-gray); chest (broadly) light drab-gray, strongly contrasted with white of throat, and breast and upper abdomen duller, more buffy whitish.

Young.—Similar to the spring and summer adult plumage but slightly paler, especially on rump; under parts more buffy with under tail-coverts much paler buff; upper tail-coverts pale wood brown or isabella color.

Adult male.—Length (skins), 240–266 (255); wing, 95–101 (98.1); tail, 114–126.5 (121.7); exposed culmen, 30–34.5 (32.8); tarsus, 28.5–32 (31); middle toe, 20–22 (21.1).[b]

Adult female.—Length (skins), 237–260 (250); wing, 93–97.5(95.4); tail, 114.5–127 (118.7); exposed culmen, 30–35.5 (32.7); tarsus, 30.5–32 (31.3); middle toe, 21–22.5 (21.5).[b]

Deserts (Lower Sonoran zone) of southwestern Utah (west of Beaverdam Mountains), southern Nevada (Vegas, Pahrump, and Indian Spring valleys), southern California (Inyo, Kern, San Bernardino, eastern Riverside, and eastern San Diego[c] counties), Arizona, and northwestern Sonora (south to Cape Lobos).

Toxostoma le contei LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., v, 1852 (pub. Sept., 1851), 121 (near junction of Gila and Colorado rivers, Arizona; coll. G. N. Lawrence; also lower Gila R., Arizona).

Toxostoma lecontei BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 329 (Gila R.).—RICHMOND, Auk, xix, 1902, 89, in text.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 328.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 441.

[*Toxostoma*] *lecontei* SHARPE, Hand-list, iv, 1903, 108.

Toxostoma lecontei lecontei GRINNELL (J.), Pacific Coast Avifauna, no. 3, June, 1902, 67 (California range).

Harporhynchus lecontii BONAPARTE, Compt. Rend., xxxviii, 1854, 57; Notes Orn. Coll. Delattre, 1854, 39.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 350; ed. 1860 (Birds N. Am.), atlas, pl. 50; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 12, pl. 12; Cat. N. Am. Birds, 1859, no. 257.—SCLATER, Proc. Zool. Soc. Lond., 1859, 339 (monogr.).—COOPER, Proc. Cal. Ac. Sci., ii, 1861, 122 (Mojave R.); Orn. Cal., 1870, 17.—COUES, Ibis, 1866, 259 (Fort Mojave, Arizona).—BREWSTER, Auk, ii, 1885, 196 (near Point Lobos, Sonora; crit.; descr. young).—SHARPE, Cat. Birds Brit. Mus., vi, 1886, 361.

Harporhynchus lecontei BAIRD, Review Am. Birds, 1864, 47.—COOPER, Am. Nat., iii, 1869, 188 (Mojave Desert).—COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 65 (near Fort Mojave; habits).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, pl. 4, fig. 3.—BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 66 (Phoenix, Arizona; crit.; habits, etc.); vii, 1882, 73 (Forty-five mile Desert, Arizona; habits, descr. nest and eggs, crit., etc.).—STEPHENS, Auk, i, 1884, 355 (Agua Caliente, Colorado Desert; habits, etc., pp. 353–358); ii,

[a] Dr. Edgar A. Mearns, in Auk, iii, 1886, 302.

[b] Ten specimens.

[c] Palm Springs, breeding.

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1885, 229 (n. w. Sonora).—American Ornithologists' Union, Check List, 1886, no. 711.—Mearns, Auk, iii, 1886, 299–307 (full synonymy; historical; biographical, etc.).—Morcom, Bull. Ridgway Orn. Club, no. 2, 1887, 53 (Coahuila Valley, s. California, breeding; habits).—Johnson, Auk, vi, 1889, 280 (Palm Springs, San Diego Co., California, breeding).—Merriam, Auk, xii, 1895, 54–60, pl. 1 (geog. range, habits, etc.).—Nehrling, Our Native Birds, etc., I, 1893, 67.—Fisher, North Am. Fauna, no. 7, 1893, 128 (localities in Nevada, Utah, and California; habits).

H[arporhynchus] lecontei Ridgway, Proc. U. S. Nat. Mus., v, 1882, 45 (diagnosis); Man. N. Am. Birds, 1887, 546.—Coues, Key N. Am. Birds, 5th ed., i, 1903, 288.

[*Mimus*] *lecontei* Gray, Hand-list, i, 1869, 263, no. 3847.

[*Harporhynchus redivivus.*] Var. *lecontii* Coues, Key N. Am. Birds, 1872, 75.

Harporhynchus redivivus . . . var. *lecontii* Coues, Check List, 1873, no. 13*a*.—Henshaw, Rep. Orn. Spec. Wheeler's Surv., 1874, 154 (Arizona).

Harporhynchus redivivus var. *lecontei* Coues, Am. Nat., vii, 1873, 328 (crit.).—Baird, Brewer, and Ridgway, Hist. N. Am. Birds, i, 1874, 44.

Harporhynchus redivivus lecontii Coues, Birds Col. Val., 1878, 70; Check List, 2d ed., 1882, no. 24.—Holterhoff, Bull. Nutt. Orn. Club, viii, 1883, 48–49 (Flowing Wells, Colorado Desert; habits; descr. nest and eggs).

Harporhynchus redivivus lecontei Ridgway, Proc. U. S. Nat. Mus., iii, 1880, 167; Nom. N. Am. Birds, 1881, no. 16*a*.

H[arporhynchus] r[edivivus] lecontii Coues, Key N. Am. Birds, 2d ed., 1884, 254.

TOXOSTOMA LECONTEI ARENICOLA (Anthony).

ROSALIA THRASHER.

Similar to *T. l. lecontei*, but color of upper parts and chest slightly darker and grayer.

Adult male.—Length (skin), 250; wing, 98; tail, 117; exposed culmen, 31, tarsus 32; middle toe, 22.[a]

Western Lower California, in vicinity of Santa Rosalia Bay.

Harporhynchus lecontei arenicola Anthony, Auk, xiv, Apr., 1897, 167 (Santa Rosalia Bay, Lower California; coll. A. W. Anthony).—American Ornithologists' Union Committee, Auk, xvi, 1899, 124 (check list no. 711*a*).

H[arporhynchus] l[econtei] arenicola Coues, Key N. Am. Birds, 5th ed., i, 1903, 289.

Toxostoma lecontei arenicola Richmond, Auk, xix, Jan., 1902, 89, in text.

[*Toxostoma*] *arenicola* Sharpe, Hand-list, iv, 1903, 108.

TOXOSTOMA CRISSALE Henry.

CRISSAL THRASHER.

Adults in spring and summer.—Above plain grayish brown (light broccoli brown or approaching light hair brown), the tail slightly darker, with rectrices tipped, more or less distinctly, with paler and more buffy brown or cinnamomeous; under parts similar but paler and slightly more buffy, passing into dull white on throat and chin and into cinnamon-rufous on posterior flanks, anal region, and under

[a] One specimen, the type; this is the only example I have seen, and although the differences noted above are, if constant, sufficient to warrant the separation of a Lower California race, I am not entirely satisfied that the supposed form is really valid.

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tail-coverts; suborbital region and anterior portion of auricular region dull whitish,the feathers margined with dusky; rest of auricular region light grayish brown, anteriorly more or less streaked with whitish; malar region dull whitish, the feathers sometimes narrowly tipped with dusky; chin and throat margined laterally by a distinct submalar streak or narrow stripe of dusky; bill dull black, becoming more horn colored on basal portion of gonys; iris brown; legs and feet dusky horn color (in dried skins).

Adults in autumn and winter.—Similar to the spring and summer plumage, but coloration slightly darker and grayer.

Young.—Similar in coloration to spring and summer adults, but cinnamon-rufous of under parts, etc., slightly paler and duller, upper tail-coverts browner, and texture of plumage much looser.

Adult male.—Length (skins), 273–297 (284); wing, 96–105 (100.3); tail, 133–150.5 (140.1); exposed culmen, 32–38.5 (35.3); tarsus, 31.5–34.5 (32.8); middle toe, 21.5–22.5 (21.9).[a]

Adult female.—Length (skins), 252–311 (279); wing, 93.5–102.5 (99); tail, 123–145 (136.3); exposed culmen, 33.5–37.5 (35.1); tarsus, 30.5–34.5 (31.7); middle toe, 19–23 (21).[b]

Deserts of western Texas (Fort Hancock, Ysleta, Franklin Mountains, El Paso County, Brewster County, etc.), New Mexico (Otero, San Miguel, Grant, and Donna Ana counties), Arizona, southern Utah (St. George, lower Santa Clara Valley), southeastern Nevada (Vegas and Virgin valleys; Charleston Mountains), southern California (San Bernardino, eastern Riverside, and eastern San Diego counties), northern Lower California (Seven Wells and Gardners Laguna, Salton River; Trinidad Valley), and northern Sonora (Florido; Senoyta, January).

Toxostoma crissalis HENRY, Proc. Nat. Ac. Nat. Sci. Phila., x, 1858, 117 (Rio Mimbres, New Mexico; coll. Acad. Nat. Sci. Phila.)—RICHMOND, Auk, xix, 1902, 89, in text.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 329.—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 67 (California range).—STONE and REHN, Proc. Ac. Nat. Sci. Phila., 1903, 29 (Dry Cañon, Otero Co., New Mexico).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 442.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 59 (Huachuca Mts., Arizona, rare).

[*Toxostoma*] *crissale* SHARPE, Hand-list, iv, 1903, 108.

Toxostoma crissale MONTGOMERY, Auk, xxii, 1905, 15 (Brewster Co., Texas, locally common).

Harporhynchus crissalis BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 351; ed. 1860 (Birds N. Am.), atlas, pl. 82; Cat. N. Am. Birds, 1859, no. 258; Review Am. Birds, 1864, 47 (Mimbres, New Mexico; Fort Yuma, California).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 107 (New Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1859, 339 (monogr.).—COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 65 (Fort Mojave, Arizona); Am. Nat., vi, 1872, 370 (descr. eggs); vii, 1873, 328 (crit.); Check List, 1873, no. 14; 2d ed., 1882, no. 25; Birds Col. Val., 1878, 73.—COOPER, Am. Nat., iii, 1869, 473 (Fort Mojave); Orn. Cal., 1870, 18 (Fort

[a] Ten specimens. [b] Nine specimens.

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Mojave).—Brewer, Proc. Bost. Soc. N. H., xvi, 1873, 108 (descr. eggs).—Baird, Brewer, and Ridgway, Hist. N. Am. Birds, i, 1874, 47, pl. 4, fig. 1; iii, 1874, 500 (Tucson, Arizona; descr. eggs).—Henshaw, Rep. Orn. Spec. Wheeler's Surv., 1874, 40 (St. George, s. Utah, breeding), 97 (Mount Turnbull, Arizona), 154 (Arizona); Zool. Exp. W. 100th Merid., 1875, 158 (Mount Turnbull, Camp Lowell, and Camp Bowie, Arizona).—Stephens, Bull. Nutt. Orn. Club, iii, 1878, 93 (Gila R., New Mexico; Arizona).—Ridgway, Nom. N. Am. Birds, 1881, no. 17.—Brewster, Bull. Nutt. Orn. Club, vi, 1881, 72 (Tucson, Arizona); vii, 1882, 74 (Tombstone, Tucson, and Camp Lowell, Arizona; habits, descr. nest and eggs, crit., etc.).—Sharpe, Cat. Birds Brit. Mus., vi, 1881, 361.—Mearns, Auk, iii, 1886, 292–299 (full synonymy, historical, biography, etc.).—American Ornithologists' Union, Check List, 1886, no. 712.—Morcom, Bull. Ridgway Orn. Club, no. 2, 1887, 54 (Yuma, Arizona, breeding).—Scott, Auk, v, 1888, 161 (s. Arizona, resident; habits).—Anthony, Auk, ix, 1892, 368 (Deming and Apache, s. w. New Mexico, breeding).—Nehrling, Our Native Birds, etc., i, 1893, 68, pl. 4, fig. 4.—Fisher (A. K.), North Am. Fauna, no. 7, 1893, 130 (localities in Nevada, Utah, etc.; descr. nest).—Lantz, Trans. Kans. Ac. Sci. for 1896–97 (1899), 223 (Florido, Sonora).—Wilson (S. S.), Auk, xvi, 1899, 189 (San Miguel Co., New Mexico).—Gilman, Condor, iv, 1902, 15 (Conchilla Valley, etc., Colorado Desert; habits).

[*Harporhynchus*] *crissalis* Coues, Key N. Am. Birds, 1872, 75.

H[*arporhynchus*] *crissalis* Coues, Key N. Am. Birds, 2d ed., 1884, 254; 5th ed., i, 1903, 289.—Ridgway, Man. N. Am. Birds, 1887, 546.

Harporrhynchus crissales [typographical error] Baird, Ives' Rep. Expl. Col. R., pt. v, 1861, 6.

[*Mimus*] *crissalis* Gray, Hand-list, i, 1869, 263, no. 3847.

Genus MELANOTIS Bonaparte.

Melanotis Bonaparte, Consp. Av., i, 1850, 276. (Type, *Turdus melanotis* Temminck, = *Orpheus cærulescens* Swainson).—Baird, Review Am. Birds, 1864, 56 (genus first characterized!).

Rather large Mimidæ (length about 225–275 mm.) with upper parts plain grayish blue or bluish gray, longest primaries exceeding longest secondaries by about half the length of middle toe (without claw), and with seventh, sixth, and fifth primaries longest.

Bill about as long as head (exposed culmen equal to or slightly longer than middle toe without claw, sometimes longer than middle toe with claw), rather stout, about as broad as high at base; culmen distinctly ridged, straight basally, slightly and gradually curved toward tip, where strongly decurved; gonys much shorter than distance from nostril to tip of maxilla, nearly straight (sometimes faintly concave subterminally), its base forming a faintly but decidedly prominent angle; commissure nearly straight. Nostril broadly oval, occupying greater part of the rather small nasal fossa, posteriorly in contact with frontal antiæ, overhung by membrane. Rictal bristles well developed. Wing rather short and rounded (longest primaries exceeding secondaries by about half the length of middle toe without claw); seventh, sixth, and fifth primaries longest, the tenth (outermost) more than half as long as ninth, the latter shorter than secondaries. Tail

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equal to or longer than wing, strongly rounded (graduation about equal to or more than length of middle toe without claw), the rectrices very broad. Tarsus equal to or longer (usually decidedly longer) than exposed culmen (a little more than one-fourth to nearly one-third as long as wing), rather slender, the acrotarsium distinctly scutellate; middle toe (without claw) about two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly beyond; hallux shorter than inner toe but much stouter; claws normal in size and curvature, that of the hallux decidedly shorter than its digit; basal phalanx of middle toe united to that of outer toe by about the basal half, almost wholly free from that of inner toe.

Coloration.—Upper parts plain grayish blue or bluish gray, the under parts similar, or with throat, chest, breast, and abdomen white.

Nidification.—(Unknown.[a])

Range.—Mexico and highlands of Guatemala. (Three species.)

KEY TO THE SPECIES OF MELANOTIS.

a. Under parts dull slaty blue, like upper parts.

b. Darker in color; larger (except bill and feet), with relatively longer tail and shorter bill (adult male averaging wing 112.4, tail 125.3, exposed culmen 23.1). (Central and southern Mexico.).....**Melanotis cærulescens** (p. 210)

bb. Paler; smaller (except bill and feet), with relatively shorter tail and longer bill (adult male averaging wing 107.7, tail 108, exposed culmen 26.6). Tres Marias Islands, western Mexico.).....**Melanotis longirostris** (p. 212)

aa. Under parts white (except sides, flanks, and under tail-coverts). (Highlands of Guatemala.).....**Melanotis hypoleucus** (p.212)

MELANOTIS CÆRULESCENS (Swainson).

BLUE MOCKINGBIRD.

Adult male.—Pileum and hindneck dull grayish blue, slightly paler on forehead and superciliary region, the feathers dusky basally (and to a certain extent laterally), producing a more or less distinctly streaked appearance; rest of upper parts plain dark grayish blue (between indigo and slate-color), the shafts, and often a narrow streak on web along shafts, of rectrices and remiges black; under side of rectrices and remiges slate-black; loral, suborbital, auricular, and malar regions black, producing a conspicuous patch on side of head, the two of opposite sides connected on chin; feathers of throat and chest semi-lanceolate, light grayish blue, dusky at base and edges, producing a streaked appearance; rest of under parts plain dull grayish blue, slightly paler than that of upper parts; bill black; iris brown; legs and feet black or dark brown; length (skins), 252–273 (259); wing, 108–119 (112.4); tail, 116–132 (125.3); exposed culmen, 21–25 (23.1); tarsus, 28.5–33 (30.7); middle toe, 21–23 (22).[b]

[a] See The Ibis, 1859, 7.

[b] Eleven specimens.

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Adult female.—Similar to the male and often not distinguishable; but usually smaller and slightly duller in color; length (skins), 233–253 (245); wing, 98–110 (106.7); tail, 105–125 (115.4); exposed culmen, 22–24 (22.6); tarsus, 28–31 (29.6); middle toe, 20.5–22 (21.5).[a]

Young.—Uniform slate color or sooty slate-gray, the wings and tail more bluish slate; feathers of throat, pileum, etc., short (not sublanceolate as in adults), entirely concolor with other parts; loral and auricular regions dark slate or slate-black.

Western, central, and southern Mexico in States of Sinaloa (Mazatlan), southern Chihuahua (Jesus Maria), Durango (Chacala), Jalisco (Barranca Ibarra; San Sebastian), Mexico (Temascaltepec), Morelos (Titela del Volcan), Puebla (Chietla; Tochimilco), Vera Cruz (Jalapa; Cordova; Orizaba; Mirador; Jico), Oaxaca (Juquila; Pluma; Talea; Villa Alta; Totontepec), Guerrero (Omilteme), Colima (Colima; plains of Colima), and Michoacan (Los Reyes).

Orpheus cærulescens SWAINSON, Philos. Mag., new ser., i, 1827, 369(Mexico; coll. Cambridge Mus.).

M[imus] cærulescens GRAY, Gen. Birds, i, 1847, 221.

[*Mimus*] *cærulescens* GRAY, Hand-list, i, 1869, 262, no. 3838.

Mimus cærulescens SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Cordova, Vera Cruz).

Melanotis cærulescens BONAPARTE, Consp. Av., i, 1850, 276 (cited under *M. melanotis*).—SCLATER, Proc. Zool. Soc. Lond., 1859, 337 (monogr.), 370 (Talea, Juquila, Villa Alta, and Totontepec, Oaxaca); Cat. Am. Birds, 1862, 7.—BAIRD, Review Am. Birds, 1864, 56 (Jalapa and Mirador, Vera Cruz; Colima; Mazatlan).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (Vera Cruz, up to about 4,300 ft.).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 266, part

[a] Nine specimens.

Specimens from eastern Mexico compare with those from western Mexico in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from western Mexico (Oaxaca to Chihuahua)	112.7	124.9	23.4	30.7	22
Two adult males from eastern Mexico (Vera Cruz)	112	127	22	30.5	22.2
FEMALES.					
Eight adult females from western Mexico (Oaxaca to Durango)	106.2	114.6	22.7	29.6	21.5
One adult female from eastern Mexico (Puebla)	110	122	22	29	21.5

The single specimen (an adult male) from Chihuahua (Jesus Maria, April 8) is slightly but decidedly paler than any other specimen examined, though some Mazatlan examples are nearly as pale. If the difference presented by this specimen were constant in a series from Chihuahua, the bird of that extreme northern locality would constitute a well-marked form. The series of specimens from eastern Mexico is much too small to show whether they differ constantly from western birds. The few examined apparently do not.

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(Tepic; Mazatlan; Plains of Colima); Bull. U. S. Nat. Mus., no. 4, 1876, 12 (Sierra Madre; Zapotitlan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 28, part.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 362.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 132 (Chietla, Puebla; Jalapa).—JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 775 (Barranca Ibarra, Jalisco; song).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 20 (Jalapa; song).

[*Melanotis*] *cærulescens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.—SHARPE, Hand-list, iv, 1903, 108.

Calandria cærulescens CUBAS, Cuadra Geog. Est. Descr. Hist. Est. Unid. Mex., 1884, 173.

Turdus melanotis TEMMINCK, Pl. Col., livr. 84, 1830, pl. 498 (Mexico).

[*Melanotis*] *melanotis* BONAPARTE, Consp. Av., i, 1850, 276.

Turdus erythrophthalmus LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 2 (Jalapa and Temascaltepec); Journ. für Orn., 1863, 57 (reprint).

MELANOTIS LONGIROSTRIS (Nelson).

TRES MARIAS BLUE MOCKINGBIRD.

Similar to *M. cærulescens*, but smaller (except bill and feet), with relatively much shorter tail and decidedly longer bill; coloration much paler, the sublanceolate feathers of throat and pileum pale grayish blue or pearl blue.

Adult male.—Length (skins), 237–250 (243); wing, 105–112 (107.7); tail, 105–111 (108); exposed culmen, 23–28.5 (26.6); tarsus, 29–31 (29.7); middle toe, 20–22 (21.2).[a]

Adult female.—Length (skins), 225–242 (236); wing, 99–104 (102.5); tail, 99–102 (100); exposed culmen, 26–27 (26.6); tarsus, 25.5–30 (27.9); middle toe, 20–21.5 (20.6).[b]

Tres Marias Islands (Maria Madre), western Mexico.

Melanotis cærulescens (not *Orpheus cærulescens* Swainson) GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 275 (Tres Marias islands; habits; song).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 266, part (Tres Marias).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 28, part (Tres Marias).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 362, part (Tres Marias).

Melanotis cærulescens longirostris NELSON, Proc. Biol. Soc. Wash., xii, Jan. 27, 1898, 10 (Maria Madre I., Tres Marias, n. w. Mexico; coll. U. S. Nat. Mus.); North Am. Fauna, no. 14, 1899, 59 (habits; song; crit.).

[*Melanotis*] *longirostris* SHARPE, Hand-list, iv, 1903, 108.

MELANOTIS HYPOLEUCUS Hartlaub.

WHITE-BREASTED BLUE MOCKINGBIRD.

Adult male.—Above plain dull slate-blue, slightly paler and brighter on pileum; shafts of remiges and rectrices black, their inner webs slate-black; loral, suborbital, malar and auricular regions uniform black, producing a conspicuous patch on side of head; under parts white, changing to dull grayish blue or bluish slate-gray on sides, flanks, and under tail-coverts; bill black, legs and feet blackish brown

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a Eight specimens. *b* Four specimens.

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or dusky horn color (in dried skins); length (skin), 273; wing, 114; tail, 136; tarsus, 32; middle toe, 22.[a]

Young.—"A young bird (obtained July 23) in nestling plumage is of a uniform dull blackish, with the white feathers beginning to develop themselves on the breast and belly." (Sclater, Ibis, 1860, 29.)

Highlands of Guatemala (Dueñas; Godines; San Gerónimo; Coban; between Coban and Clusec; Zunil).

Melanotis hypoleucus HARTLAUB, Rev. et Mag. Zool., iv, Oct., 1852, 460 (Guatemala; coll. Hamburg Mus.); Journ. für Orn., 1853, 30.—SCLATER and SALVIN, Ibis, 1859, 7 (Dueñas, Guatemala; habits; song; descr. nest and eggs); Exotic Orn., pt. i, 1868, 85, pl. 43.—SALVIN and SCLATER, Ibis, 1860, 29 (Coban and Dueñas, Guatemala; descr. young).—SCLATER, Proc. Zool. Soc. Lond., 1859, 337 (monogr.); Cat. Am. Birds, 1862, 7 (Dueñas).—BAIRD, Review Am. Birds, 1864, 57 (Coban).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 29 (Godines, San Gerónimo, etc., Guatemala).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 363.

[*Melanotis*] *hypoleucus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.—SHARPE, Hand-list, iv, 1903, 108.

[*Mimus*] *hypoleucus* GRAY, Hand-list, i, 1869, 262, no. 3839.

Genus MELANOPTILA Sclater.

Melanoptila SCLATER, Proc. Zool. Soc. Lond., 1857, 275. (Type, *M. glabrirostris* Sclater.)

Small Mimidæ (length about 200 mm.) entirely glossy black in color, and with broad rectrices.

Bill much shorter than head, the exposed culmen shorter than middle toe (without claw); culmen nearly straight for most of its length, the terminal portion gradually but decidedly decurved; gonys slightly convex. Nostril oval or broadly wedge-shaped, posteriorly nearly in contact with feathering of frontal antiæ, overhung by narrow membrane. Rictal bristles minute, nearly obsolete. Wing moderate (longest primaries exceeding longest secondaries by about the distance from nostril to tip of maxilla), much rounded; outermost (tenth) primary very large (more than half as long as the longest), the ninth longer than third; seventh and sixth, or eighth and seventh, primaries longest. Tail about as long as wing, decidedly rounded (graduation about equal to distance from nostril to tip of maxilla), the rectrices very broad (width equal to more than one-fourth their length), especially toward tip, which is broadly rounded. Tarsus moderate in length (a little less than one-third as long as wing), rather slender, the acrotarsium rather distinctly scutellate (the divisions sometimes indistinct on outer side); middle toe (without claw) about two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe,

[a] One specimen, with broken bill. Five other adults, none of them with sex determined, measure as follows: Length (skins), 242–265 (251); wing, 106–113 (109.6); tail, 117–131 (126.6); exposed culmen, 23–25 (24); tarsus, 32–33.5 (32.4); middle toe, 21–23 (22.1).

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the outer slightly beyond; hallux shorter than inner toe; basal phalanx of middle toe adherent to that of outer toe for about the basal half, to that of inner toe at base only; claws normal as to size and curvature.

Coloration.—Plumage entirely glossy black.

Nidification.—(Unknown.)

Range.—Coast district (including islands) of Yucatan, British Honduras, and northern Honduras. (Monotypic.)

MELANOPTILA GLABRIROSTRIS Sclater.

BLACK CATBIRD.

Adult male.—Uniform glossy violaceous-black, rather duller on under parts (especially on abdomen, sides, and flanks), the wings and tail glossy greenish black; bill black; iris brown; legs and feet black or blackish brown (in dried skins), with soles of toes paler (sometimes yellowish); length (skins), 195–215 (204); wing, 88–93 (90.3); tail, 89–97 (93); exposed culmen, 16.5–21.5 (19.2); tarsus, 26.5–30 (28); middle toe, 18–20 (18.9).[a]

Adult female.—Frequently indistinguishable from the adult male, but usually slightly duller in color (the black of under parts sometimes very faintly glossy), and averaging smaller; length (skins), 188–205 (197); wing, 86–97 (88.6); tail, 81–94 (87.6); exposed culmen, 16–20 (17.9); tarsus, 26–30 (27.6); middle toe, 17–19 (18.4).[b]

Coast district of Yucatan (including Holbox, Mujeres, and Cozumel islands, etc.), and southward through British Honduras (Belize; Half Moon Cay; Corosal; Lighthouse Reef; Glovers Reef) to northern coast of Honduras (Omoa).

Melanoptila glabrirostris SCLATER, Proc. Zool. Soc. Lond., 1857, 275, figs. (Omoa, Honduras; coll. P. L. Sclater); 1859, 337 (monogr.); Cat. Am. Birds, 1862, 7 (Omoa).—SCLATER and SALVIN, Ibis, 1859, 7 (Omoa).—MOORE, Proc. Zool. Soc. Lond., 1859, 55 (Omoa).—SALVIN, Ibis, 1864, 380 (Lighthouse and Glovers Reefs, British Honduras); 1885, 187 (Cozumel I., Yucatan).—BAIRD, Re-

[a] Fourteen specimens.

[b] Nine specimens.

Specimens from different localities average, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Cozumel Island	91.7	94.7	20.3	28.3	19.1
Six adult males from Mujeres Island	89.6	92.2	18.4	28.1	19
Two adult males from mainland of Yucatan	88.2	90	18.5	26.5	18.2
FEMALES.					
Three adult females from Cozumel Island	90.7	89	19.2	28.2	18.7
Five adult females from Mujeres Island	87.9	88	17.4	27.4	18.3
One adult female from mainland of Yucatan	86	81	17	26.5	18

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view Am. Birds, 1864, 55 (Half-moon Cay, British Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 27, pl. 3, fig. 2 (Corosal, British Honduras, etc.).—SHARPE, Cat. Birds, Brit. Mus., vi, 1881, 331 (Cape Gracios a Dios; coast Yucatan).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 439 (Yucatan).—RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 562 (Cozumel).—SALVIN, Ibis, 1885, 187 (Cozumel); 1888, 244 (Holbox, Mujeres, and Cozumel islands; Lighthouse and Glovers reefs; range).

[*Melanoptila*] *glabrirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.—SHARPE, Hand-list, iv, 1903, 109.

[*Turdus*] *glabrirostris* GRAY, Hand-list, i, 1869, 258, no. 3774.

Genus MIMODES Ridgway.

Mimodes RIDGWAY, Proc. U. S. Nat. Mus., v., sig. 3, June 5, 1882, 45. (Type, *Harporhynchus graysoni* Lawrence.)

Medium-sized Mimidæ (length about 250 mm.) with very dull and plain coloration (uniform brown above, dull brownish white below), short, rather stout, bill, and much rounded wing, with outermost (tenth) primary more than half as long as eighth, ninth about equal to first, the sixth and fifth longest.

Bill much shorter than head (exposed culmen decidedly shorter than middle toe without claw), its depth at frontal antiæ equal to nearly half the distance from nostril to tip of maxilla; culmen straight basally, gradually and increasingly decurved terminally; gonys nearly straight. Nostril rather small, longitudinally oval or elliptical, surrounded (except for lower anterior portion) by membrane, the posterior end scarcely touching the feathering of frontal antiæ. Rictal bristles distinct. Wing rather short (longest primaries exceeding longest secondaries by about two-thirds the length of middle toe without claw), much rounded; outermost (tenth) primary large, more than half as long as eighth, the latter nearly as long as fourth, the ninth about as long as first, the sixth and fifth longest. Tail about as long as wing or longer (averaging longer, rarely very slightly shorter), distinctly though slightly rounded, the graduation less than distance from nostril to tip of maxilla. Tarsus rather long (about one-third as long as wing or a little less), rather slender, the acrotarsium scutellate; middle toe (without claw) about two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly beyond; hallux shorter than inner toe, but much stouter; basal phalanx of middle toe adherent to that of outer toe for basal half, almost wholly separated from that of inner toe; claws normal as to length and curvature.

Coloration.—Upper parts plain brown, under parts dull brownish white; no white on wings nor tail. Young with chest indistinctly spotted with grayish brown.

Nidification.—(Unknown.)

Range.—Socorro Island, Revillagigedo group, off northwestern Mexico. (Monotypic.)

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MIMODES GRAYSONI (Lawrence).

SOCORRO THRASHER.

Adults (sexes alike).—Above plain grayish brown (deep broccoli brown), the rump and upper tail-coverts slightly browner; wings and tail with indistinct paler edgings, the middle and greater wing-coverts narrowly and rather indistinctly tipped with paler; primaries rather distinctly edged with pale gray; under parts soiled white, the sides and flanks streaked with brown or grayish brown; under tail-coverts dull brownish white, streaked or marked with central or mesial areas of grayish brown; lores dusky; auricular region streaked with grayish brown and dull brownish white; suborbital and malar regions dull brownish white flecked with grayish brown; sides of chin and throat margined with a more or less distinct submalar streak of dusky grayish brown; bill dusky brown or blackish, the mandibular rami more horn colored; legs and feet blackish or blackish brown.

Young.—Similar to adults, but rather brighter or more rusty brown above; middle and greater wing-coverts tipped with pale tawny or brownish buff; chest rather sparsely and indistinctly spotted with grayish brown; under tail-coverts light brown.

Adult male.—Length (skins), 233–253 (243); wing, 104–110 (107.2); tail, 110–122 (117.3); exposed culmen, 18–22 (19.9); depth of bill at frontal antiæ, 7–7.5 (7.3); tarsus, 36–37 (36.6); middle toe, 23.[a]

Adult female.—Length (skins), 230–255 (243); wing, 99–107 (102.2); tail, 111–120 (115.8); exposed culmen, 19–21 (19.9); depth of bill at frontal antiæ, 6–7 (6.7); tarsus, 34–38 (35.6); middle toe, 22–23 (22.2).[b]

Island of Socorro, Revillagigedo group, northwestern Mexico.

Harporhynchus graysoni LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., x, Feb. 1, 1871, 1 (Socorro I., Revillagigedo group, n. w. Mexico; coll. U. S. Nat. Mus.; ex "Baird, MS.").—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 298.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 267.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 33.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 18.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 361.

M[imodes] graysoni RIDGWAY, Man. N. Am. Birds, 1887, 543.

Mimodes graysoni TOWNSEND (C. H.), Proc. U. S. Nat. Mus., xiii, 1890, 135.—ANTHONY, Auk, xi, 1898, 317 (song).

[*Mimodes*] *graysoni* SHARPE, Hand-list, iv, 1903, 106.

Genus GALEOSCOPTES Cabanis.

Dumetella S [?] D [?] W [?], Analyst, v, no. xviii, 1836, 206, in text. (Type, *D. felivox* S. D. W.,="The Cat Thrush of Latham.")

Spodesilaura REICHENBACH, Av. Syst., Mar., 1850, pl. 53. (Type, *Muscicapa carolinensis* Linnæus.)

[a] Six specimens.

[b] Five specimens.

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Galeoscoptes[a] CABANIS, Mus. Hein., i, 1850, 82. (Type, *Muscicapa carolinensis* Linnæus.)[b]

Felivox BONAPARTE, Compt. Rend., xxxviii, 1854, 56. (Type, *Muscicapa carolinensis* Linnæus.)

Lucar COUES, Proc. Ac. Nat. Sci. Phila., 1875, 349. (Type, *Muscicapa carolinensis* Linnæus.) (See Coues, Aux, xiv, 1897, 97.)

Rather small Mimidæ (length about 200 mm.) with bill much shorter than head, and coloration plain slate-gray, relieved by black pileum and tail, and chestnut under tail-coverts.

Bill much shorter than head, the exposed culmen decidedly shorter than middle toe, without claw, nearly straight to near tip, where gradually decurved; gonys nearly straight or very slightly convex, ascending terminally, its base forming a perceptible protruding angle; maxillary tomium nearly straight, distinctly notched subterminally. Nostril ovate, overhung by membrane, posteriorly in contact with feathering of frontal antiæ. Rictal bristles distinct. Wing moderate (longest primaries exceeding longest secondaries by about two-thirds the length of middle toe without claw), rounded; outermost (tenth) primary more than half as long as ninth, the latter about equal to third, eighth about equal to fifth, the seventh and sixth longest (though only slightly exceeding eighth and fifth). Tail slightly longer than wing, decidedly rounded (graduation equal to slightly more than distance from nostril to tip of maxilla), the rectrices narrowly rounded terminally, with extreme tip somewhat pointed. Tarsus less than one-third as long as wing, rather slender, the acrotarsium with scutella sometimes indistinct, especially on outer side; middle toe about two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly beyond; hallux about as long as inner toe but much stouter; basal phalanx of middle toe adherent for about half its length to outer toe, almost wholly free from inner toe; claws normal as to length and curvature.

Coloration.—Plain slate-gray (rather paler below), with pileum and tail black and under tail-coverts partly chestnut. Young with chest, etc., obsoletely spotted with darker.

Nidification.—Nest open above, rather bulky, composed exteriorly of twigs, strips of bark, etc., lined with fine rootlets, placed in small tree, growth of vines, or other sheltered places. Eggs (3–5) immaculate deep bluish green.

Range.—Temperate North America, migrating in winter to Bahamas, Cuba, Mexico, and Central America; resident in Bermudas. (Monotypic.)

[a] "γαλῆ, katze und ϛκώπτης, ὁ, spötter, Nachaffer."

[b] It is possible that this name may, on ground of priority, have to give way to *Spodoilaura*, but I am not able to determine the exact date of publication of *Galeoscoptes*. Doctor Richmond is of the opinion that it could hardly have been earlier than September, 1850, and may have been as late as 1851.

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GALEOSCOPTES CAROLINENSIS (Linnæus).

CATBIRD.

Adult male.—Pileum black, or slate-black, the forehead (more or less extensively) slate-gray, the posterior portion of pileum, or nape, sometimes more sooty; tail black, the rectrices edged with slate-gray basally; wings slate-black or blackish slate with broad slate-gray edgings (nearly concealing the darker color); under tail-coverts chestnut, their basal portion slate-gray; rest of plumage (including superciliary region) plain slate-gray, the upper surface darker, or more nearly slate-color; bill black; iris brown; legs and feet dark horn color, the toes darker; length (skins), 185–225 (200); wing, 86–96 (91.2); tail, 89–103 (95.9); exposed culmen, 15–18 (16.2); tarsus, 27–29 (27.9); middle toe, 18–20 (19.3).[a]

Adult female.—Similar to the adult male and perhaps not always distinguishable, but usually with black of pileum slightly more sooty, back more or less tinged with sooty brown, and chestnut of under tail-coverts more restricted and broken through greater extension of the basal and central slate-gray; length (skins), 187–208 (196); wing, 84–91 (88.1); tail, 82–97 (91.7); exposed culmen, 15–17 (16.2); tarsus, 27–28.5 (27.9); middle toe, 18–20 (19.2).[b]

Young.—Similar to the adult female, but back still more strongly tinged with sooty, sooty blackish of pileum less sharply defined, gray of under parts very indistinctly (obsoletely) spotted with darker, and sometimes faintly tinged with pale brownish buffy, and under tail-coverts pale chestnut or fawn color.

[a] Twenty-five specimens.

[b] Eleven specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Maryland, District of Columbia, and Virginia	91.1	95.1	16.2	28.1	19.5
Four adult males from Mississippi Valley	89.6	92.9	16.5	27.1	19
Six adult males from Colorado, Wyoming, and Utah	90.3	96.2	16.4	27.9	18.7
Five adult males from British Columbia	93.6	99.5	15.7	28.3	19.6
One adult male from Bermudas	84	88	16	26	18
FEMALES.					
Five adult females from Pennsylvania to Virginia	88.3	92.2	16.1	27.9	19.4
Two adult females from Indiana and Minnesota	86.5	89	16.5	28.2	18.7
Two adult females from Utah	87.5	92	16.2	27.5	19
Two adult females from British Columbia	90	93	16.2	28.2	19.2
One adult female from Bermudas	88	90	15	27	19

There are apparently no color differences.

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Temperate North America in general, but wanting from most of region south of the Columbia River and west of Rocky Mountains; north to Nova Scotia, southern Maine, New Hampshire, Ontario, Manitoba (Fort Dufferin), Saskatchewan, and British Columbia; west to and including Rocky Mountains, in Montana, Idaho, Wyoming, Colorado, New Mexico (Rinconada, breeding), and Utah (Wahsatch Mountains; Salt Lake Valley), and in Oregon and Washington to the Pacific coast (accidentally to Farallon Islands, California); breeding southward to northern Florida (Wacissa River) and along Gulf coast to east-central Texas (Harris County); wintering from Southern States (occasionally Middle States) southward to Bahamas, Cuba, Isle of Pines, Grand Cayman, Anguilla (Lesser Antilles), Swan Island (Caribbean Sea), and through eastern Mexico and Central America to Panama (Boquete, Chiriqui); Bermudas (resident); accidental in Europe (Heligoland).

[*Muscicapa*] *carolinensis* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 328 (Virginia; based on *The Cat Bird* Catesby, Nat. Hist. Carolina, i, 66, pl. 66).—BODDAERT, Tabl. Pl. Enl., 1783, 43.—GMELIN, Syst. Nat., i, 1788, 946.—LATHAM, Index Orn., ii, 1790, 483.

Turdus carolinensis LICHTENSTEIN, Verz. Doubl., 1823, 38; Preis-Verz. Mex. Vög., 1830, 2.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 51.

Orpheus carolinensis AUDUBON, Synopsis, 1839, 88; Birds Am., ii, 1841, 195, pl. 140.—BLAND, Ann. Rep. Smithson. Inst. for 1858 (1859), 287 (Bermudas).—MARTENS, Journ. für Orn., 1859, 213 (Bermudas).—JONES, Naturalist in Bermuda, 1859, 27.

M[*imus*] *carolinensis* GRAY, Gen. Birds, i, 1847, 221; Hand-list, i, 1869, 262, no. 3840.

Mimus carolinensis JARDINE, Contr. Orn., 1848, 79 (Bermudas, resident).—HURDIS, Jardine's Contr. Orn., 1850, 5 (Bermudas).—SCLATER, Proc. Zool. Soc. Lond., 1856, 294 (Cordova, Vera Cruz).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 346; Cat. N. Am. Birds, 1859, no. 254.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307 (Cuba).—GUNDLACH, Journ. für Orn., 1861, 324 (Cuba).—BLAKISTON, Ibis, 1862, 5 (Saskatchewan); 1863, 66 (Fort Carlton, British America)—HAYDEN, Trans. Am. Philos. Soc., xii, 1863, 163 (Missouri Valley).—LORD, Proc. Roy. Art. Inst. Woolw., iv, 1864, 117 (British Columbia, east of Cascade Mts.).—COOPER, Am. Nat., iii, 1869, 73, 295 (Cœur d'Alene Mts., Montana).—COUES, Proc. Ac. Nat. Sci. Phila., 1871, 19 (Fort Macon, North Carolina, resident); Check List, 1873, no. 9; 2d ed., 1882, no. 16; Birds Northwest, 1874, 8.—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 174 (Kansas; Colorado; Utah), Proc. Bost. Soc. N. H., 1874, 49 (Dakota).—MAYNARD, Birds Florida, 1872, 19.—TRIPPE, in Coues's Birds Northwest, 1874, 228 (Colorado).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 18 (descr. young).—LOOMIS, Bull. Nutt. Orn. Club, iv, 1879, 210 (Chester Co., South Carolina, summer resident).—CORY, Birds Bahama I., 1880, 51.—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 7 (Houston, Texas, breeding).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 109 (Houlton, Maine, very rare, breeding).—BICKNELL, Auk, i, 1884, 132 (notes; song period).—TOWNSEND (C. H.), Auk, ii, 1885, 215 (Farallon Islands, California, 1 spec., Sept. 3, 1884).

M[*imus*] *carolinensis* COUES, Key N. Am. Birds, 2d ed., 1884, 250.

Mimus carolinensis CLIFFORD, Trans. Ills. Agric. Soc., v, 1865, 925 (habits).

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G[aleoscoptes] carolinensis CABANIS, Mus. Hein., i, 1850, 82 (Jalapa, Vera Cruz).—RIDGWAY, Man. N. Am. Birds, 1887, 542.—COUES, Key N. Am. Birds, 5th ed. i, 1903, 284.

Galeoscoptes carolinensis CABANIS, Journ. für Orn., 1855, 470 (Cuba).—SCLATER and SALVIN, Ibis, 1859, 7 (Guatemala; Belize, British Honduras); Proc. Zool. Soc. Lond., 1867, 278 (Blewfields R., Mosquito coast, Nicaragua); 1870, 836 (San Pedro, Honduras).—SCLATER, Proc. Zool. Soc. Lond., 1859, 336 (monogr.), 362 (Jalapa, Vera Cruz), 370 (Totontepec and Playa Vicente, Oaxaca); Cat. Am. Birds, 1862, 6.—GUNDLACH, Jour. für Orn., 1861, 406 (Cuba); 1872, 407 (do.); Repert. Fisico-Nat. Cuba, i, 1865, 230; Orn. Cubana, 1876, 19; ed. 1893, 51.—BAIRD, Review Am. Birds, 1864, 54 (Frijole Station, Panama R. R., etc.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 544 (Orizaba, Vera Cruz, winter).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 204 (Merida, Yucatan).—COOPER, Orn. Cal., 1870, 23 (headwaters Columbia R.).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 258 (e. Florida, winter).—MERRIAM, Rep. U. S. Geol. Surv. Terr. for 1872 (1873), 670, 705, 713 (Ogden, Utah; Wyoming; Idaho, etc.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 52, pl. 3, fig. 5; special ed., i, 1875(?), col. plate facing p. 52.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 40 (Utah), 56 (Denver, Colorado, May); Zool. Exp. W. 100th Merid., 1875, 152 (Arizona, Nov. 30; Provo, Utah, July, Aug.; Denver, May 14; Fort Garland, Colorado, breeding).—CORDEAUX, Ibis, 1875, 177 (Heligoland, Europe, 1 spec., Oct. 28, 1840).—RIDGWAY, Bull. Essex Inst., vii, 1875, 24 (Salt Lake Valley, Utah); Orn. 40th Parallel, 1877, 399 (islands in Great Salt Lake and Wahsatch Mts., Utah, breeding); Nom. N. Am. Birds, 1881, no. 12; Proc. U. S. Nat. Mus., viii, 1885, 562 (Cozumel I.); x, 1888, 575 (Swan I., Caribbean Sea, Feb.); Orn. Illinois, i, 1889, 107; Auk, viii, 1891, 334 (Abaco I.), 335 (New Providence I.), 337 (Rum Cay), 338 (Green Cay).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 26 (Coban, Choctum, Rio de la Pasion, Caliabon, and Barranca Hondo, Guatemala, etc.).—CORY, Auk, iii, 1886, 18 (West Indian references); iv, 1887, 181 (St. Andrews I., Caribbean Sea, winter); vi, 1889, 31 (Cayman Brac); viii, 1891, 46 (Anguilla, Lesser Antilles), 294 (New Providence I.), 295 (Berry Islands), 296 (Biminis); Birds West Ind., 1889, 32; Cat. West Ind. Birds 1892, 121 (Great Bahama, Abaco, Biminis, Berry islands, Eleuthera, New Providence, Andros, Watlings I., Rum Cay, and Green Cay, Bahamas; Cuba, Isle of Pines, and Grand Cayman, Greater Antilles; Anguilla, Lesser Antilles).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 335 (Fort Dufferin, Manitoba, etc).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 439 (Merida, Izamal, and Tizimin, Yucatan).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 704.—SETON, Auk, iii, 1886, 327 (w. Manitoba, abundant summer resident).—LLOYD, Auk, iv, 1887, 297 (Concho Co., w. Texas, spring and autumn).—BRYANT (W. E.), Bull. Cal. Ac. Sci., 2d ser., i, 1888, 49 (Farallon Islands, 1 spec., Sept. 4, 1884).—SALVIN, Ibis, 1885, 186 (Cozumel); 1888, 243 (Meco, Holbox, Mujeres, and Cozumel Islands, Yucatan; Ruatan I., Honduras).—COOKE, Bird Migr. Miss. Val., 1888, 266 (dates, etc.); Bull. 37, Colorado Agric. Coll., 1897, 119 (Colorado, summer resident).—CHAPMAN, Bull. Am. Mus. N. H., iii, 1890, 152 (British Columbia, breeding both in interior and on coast; crit.).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 627 (Manitoba, abundant summer resident; song; descr. nest and eggs).—NORTHROP, Auk, viii, 1891, 66 (Andros I., Bahamas, Mar. to May 23).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 482 (Escondido R., Nicaragua, Oct. 28 to Apr. 17).—NEHRLING, Our Native Birds, etc., i, 1893, 52, pl. 3; Auk, xiii, 1896, 219 (Dunklin Co., Missouri, winter resident).—SHUFELDT, Auk, x, 1893, 303 (nesting habits).—JUDD, Yearbook U. S. Dept. Agric. for 1895 (1896), 406–411 (range, habits, food, etc.).—THORNE, Auk, xii,

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1895, 218 (Fort Keogh, Montana, breeding).—WAYNE, Auk, xii, 1895, 365 (Wacissa R., n. w. Florida, breeding).—PRENTISS, Auk, xiii, 1896, 238 (Bermudas).—DAWSON, Auk, xiv, 1897, 180 (Okanogan Co., Washington, rare, breeding).—MERRILL (J. C.), Auk, xv, 1898, 19 (Fort Sherman, Idaho, summer visitant).—BONHOTE, Ibis, 1899, 507 (New Providence I., Bahamas); 1903, 277 (New Providence and Little Abaco).—FLEMING, Auk, xviii, 1901, 44 (Muskoka, etc., n. w. Ontario, abundant summer resident).—OLIVER, Auk, xix, 1902, 208 (Concord, New Hampshire, 1 spec., Dec. 3, 1901).—DURFEE, Auk, xix, 1902, 208 (Fall River, Massachusetts, 1 spec., Jan. 11, 1902).—WIDMANN, Auk, xix, 1902, 236 (Emmet Co., Michigan, summer resident).—PURDUM, Auk, xix, 1902, 292 (Pawtucket, Rhode Island, 1 spec., Dec., Jan., and Feb., 1901–1902).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 48 (Boquete, Chiriqui, Mar. 5).—SILLOWAY, Bull. Univ. Mont., no. 3, Biol. Sec. no. 1, 1901, 71 (Flathead Lake, Montana, breeding).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 437.—SNODGRASS, Auk, xx, 1903, 208 (Whitman and Lincoln counties, Washington, common); xxi, 1904, 232 (do.).—BRYANT (O.), Auk, xxi, 1904, 391 (Bermudas; date of nesting).—ALLISON, Auk, xxi, 1904, 483 (West Baton Rouge, Louisiana, not breeding).—NICOLL, Ibis, 1904, 579 (Grand Cayman, very abundant).—BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 207 (Isle of Pines).—STOCKARD, Auk, xxii, 1905, 283 (Mississippi, breeding).

[*Galeoscoptes*] *carolinensis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—SHARPE, Hand-list, iv, 1903, 106.

Mimus (*Galeoscoptes*) *carolinensis* BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 69 (Bahamas).—COUES, Birds Col. Val., 1878, 56.

Galeoscoptes [typographical error] *carolinensis* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1859, 349 (Oaxaca).—SCLATER, Proc. Zool. Soc. Lond., 1859, 370 (Totontepec, and Playa Vicente, Oaxaca).

Felivox carolinensis BONAPARTE, Compt. Rend., xxxviii, 1854, 56.

Lucar carolinensis COUES, Proc. Ac. Nat. Sci. Phila., 1875, 349; Auk, xiv, 1898, 97.

Turdus lividus WILSON, Am. Orn., ii, 1810, 90, pl. 14, fig. 3 (eastern Pennsylvania; coll. Peale's Mus., no. 6770; ex *Lucar lividus, apice nigra, the cat bird*, Bartram, Travels, p. 290 *bis*).—BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 36 (crit.).—LESSON, Traité d'Orn., 1831, 410.—GÄTKE, Journ. für Orn., 1856, 71 (Heligoland).

Orpheus lividus BLASIUS, Ibis, 1862, 66 (Heligoland).

Turdus felivox VIEILLOT, Ois. Am. Sept., ii, 1807, 10, pl. 67.—WILLIS, Ann. Rep. Smithson. Inst. for 1858 (1859), 281 (Nova Scotia).

Orpheus felivox SWAINSON, Fauna Bor. Am., ii, 1831, 192.

Dumetella felivox "S. D. W.," Analyst, v, no. xviii, 1836, 206, in text.

Mimus felivox BONAPARTE, Geog. and Comp. List, 1838, 18; Consp. Av. i, 1850, 276.—MAXIMILIAN, Journ. für Orn., 1858, 180.

Minus [typographical error] *carolinensis grisifrons* MAYNARD, Birds E. N. Am., pt. 40, 1896, 710.

Galeoscoptes bermudianus BANGS and BRADLEE, Auk, xviii, July, 1901, 253 (Hamilton, Bermuda; coll. Mus. Comp. Zool.).

[*Galeoscoptes*] *bermudianus* SHARPE, Hand-list, iv, 1903, 106.

Genus MIMUS Boie.

Mimus BOIE, Isis, Oct., 1826, 972. (Type, *Turdus polyglottos* Linnæus.)

Orpheus SWAINSON, Zool. Journ., iii, 1828, 167. (Type, *Turdus polyglottos* Linnæus.)

Mimetes[a] GLOGER, Hand-und Hilfsbuch, Naturg., i, 1842, 303. (Type, *Turdus polyglottos* Linnæus.)

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[a] *Μιμητής* an imitator. (Richmond.)

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Leucomimus BRYANT, Proc. Bost. Soc. N. H., xi, 1866 (pub. May, 1867), 68, 93 (Type, *Turdus dominicus* Linnæus.)

Skotiomimus BRYANT, Proc. Bost. Soc. N. H., xi, 1866 (pub. 1867), 68. (Type, *Mimus bahamensis* Bryant.)

Large to rather small Mimidæ (length about 200–300 mm.) with bill much shorter than head, tail equal to or longer (often much longer) than wing, middle toe (without claw) much more than three-fifths (usually about two-thirds) as long as tarsus, and with more or less of white on tail and wings, the general color grayish above, whitish beneath.

Bill much shorter than head (exposed culmen shorter than middle toe without claw); culmen gradually curved for at least terminal half, sometimes almost from base; gonys straight or (rarely) very faintly concave subterminally; maxillary tomium gently (sometimes decidedly) concave anterior to middle portion, distinctly notched subterminally. Nostril broadly oval or ovate, overhung by membrane, posteriorly nearly if not quite in contact with feathering of frontal antiæ. Rictal bristles well developed. Wing rather long (especially primaries, the longest of which exceed longest secondaries by more than length of exposed culmen), rounded; outermost (tenth) primary usually more than half as long as ninth but less than half as long as eighth,[a] the ninth usually intermediate between fourth and third (shorter than third only in *M. gracilis*), the seventh and sixth, or eighth, seventh, and sixth, longest. Tail usually longer than wing (not longer only in *M. triurus*), often very much longer, strongly rounded, the rectrices moderately broad to (relatively) rather narrow, with tips broadly rounded. Tarsus moderate to rather long (a little more than one-fourth to nearly one-third as long as wing) rather slender, the acrotarsium distinctly scutellate; middle toe (without claw) about two-thirds as long as tarsus, sometimes a little less; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly beyond; hallux slightly shorter than inner toe but much stouter; basal phalanx of middle toe adherent for about half its length to outer toe, almost wholly free from inner toe; claws normal as to size and curvature.

Coloration.—Above gray or grayish brown, with or without darker streaks, the wings with two whitish or pale grayish bands and whitish or pale grayish edgings (sometimes with larger white areas), the lateral rectrices with more or less of white; under parts dull whitish, with or without streaks on flanks. Young with chest, etc., conspicuously speckled or spotted with dusky.

[a] An exception, apparently, is found in *M. triurus*, of which the single specimen examined has the outermost primary exactly half as long as the eighth. This species is further aberrant in having the tail no longer than the wing.

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Nidification.—Nest (so far as known) open above, rather bulky, placed in dense shrubs, small trees, or thick vine-growth. Eggs (3–5) pale greenish or whitish, speckled or spotted with brown.

Range.—The whole of temperate and tropical America (except Galapagos and Revillagigedo islands. (About twenty species and subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF MIMUS.

a. Pileum and back plain gray or brownish gray; sides and flanks very slightly, if at all, streaked (usually immaculate); lateral rectrices extensively white terminally (outer pair with terminal fourth or more white, sometimes entirely white).

b. Primary coverts white (sometimes with subterminal spots or streaks of dusky; inner primaries extensively white basally; outermost rectrix entirely white, or with merely a blackish edging to outer web. (*Mimus polyglottos.*)

c. Third rectrix with inner web mostly black or dusky, sometimes almost wholly so; under parts more strongly tinged with gray or buffy. (*Continental forms.*)

d. Smaller, with longer tail; general coloration darker, less buffy; adult male averaging wing 111.4, tail 119.9, tarsus 32.5; adult female, wing 104.8, tail 108.5, tarsus 31.6. (Eastern United States, chiefly south of 40° N.; Andros, Biminis, and Abaco islands, Bahamas.). **Mimus polyglottos polyglottos** (p. 225)

dd. Larger with shorter, or relatively shorter, tail; general coloration paler, more buffy; adult male averaging wing 115.5, tail 119.9, tarsus 32.7; adult female, wing 110.7, tail 115.2, tarsus 32.4. (Southwestern United States and southward to Oaxaca and Cape San Lucas, Mexico.)

Mimus polyglottos leucopterus (p. 228)

cc. Third rectrix with inner web mostly white, usually entirely white; under parts more purely white. (*Antillean forms.*)

d. Paler gray above, purer white beneath; white at base of longer primaries more restricted, usually concealed by primary coverts. (Island of Inagua, Bahamas.)..... **Mimus polyglottos elegans** (p. 231)

dd. Darker gray above, less purely white (usually) beneath; white at base of longer primaries more extended, usually showing beyond tips of primary coverts.

e. White of inner primaries less extended, the innermost (first) primary never (?) entirely white. (Islands of Cuba, Grand Cayman, Jamaica, and Porto Rico, Greater Antilles.)..... **Mimus polyglottos orpheus** (p. 231)

ee. White of inner primaries more extended, the innermost (first) primary sometimes entirely white. (Island of Haiti, Greater Antilles.)

Mimus polyglottos dominicus (p. 233)

bb. Primary coverts black or blackish slate, sometimes narrowly margined with pale gray or grayish white; inner primaries without any white; outermost rectrix with basal half, or more, of inner web black or dusky.

c. Smaller, especially the bill (exposed culmen 16–23.5). (*Mimus gilvus.*)

d. Base of longer primaries, underneath primary coverts, not distinctly white.

e. General color of wings duller, more slaty, with broader gray edgings, obscuring the ground color.

f. Smaller, with relatively smaller bill; adult male averaging wing 102, tail 102.9, exposed culmen, 17.7; adult female, wing 100.9, tail 101.5, exposed culmen, 17.6. (Guiana and adjacent parts of Brazil; Grenada, St. Vincent, Santa Lucia, Martinique, Nevis, and St. Thomas, West Indies.)..... **Mimus gilvus gilvus** (p. 234)

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ff. Larger, with relatively larger bill; adult male averaging wing 110.5, tail 117, exposed culmen 23; adult female, wing 103, tail 105, exposed culmen 22.7. (Island of Curaçao, Caribbean Sea.)

Mimus gilvus rostratus (p. 236)

ee. General color of wings blacker, with narrower grayish edgings.

f. Smaller; adult male averaging wing 113.7, tail 116, exposed culmen 19; adult female, wing 110.6, tail 113.5, exposed culmen 18.9. (Eastern and northern Colombia; Costa Rica?).

Mimus gilvus columbianus (p. 236)

ff. Larger; adult male, wing 128, tail 140, exposed culmen 22. (Valley of Tolima, southwestern Colombia.)

Mimus gilvus tolimensis (extralimital)[a]

dd. Base of longer primaries, underneath primary coverts, distinctly white.

ee. Upper parts ash gray; general color of wings blacker, with narrower and whiter edgings; posterior under parts less strongly tinged with buff.

d. Clearer gray above; wings deeper black with narrower gray or whitish edgings; lateral rectrices more extensively white; tail longer (at least relatively). (Lowlands of British Honduras, Yucatan, Campeche, and northeastern Tabasco).....**Mimus gilvus gracilis** (p. 237)

dd. Duller or slightly browner gray above; wings slightly duller black, with broader gray or whitish edgings; lateral rectrices with less white; tail shorter. (Highlands of Guatemala and Chiapas and northward to southeastern Vera Cruz; highlands of Honduras?)

Mimus gilvus guatemalensis (p. 239)

e. Upper parts distinctly brownish gray; general color of wings duller blackish slaty with broader gray edgings; posterior under parts more strongly buffy. (State of Oaxaca, southwestern Mexico.)

Mimus gilvus lawrencei (p. 240)

cc. Larger, especially the bill (exposed culmen 26–28). (Island of St. Andrews, Caribbean Sea).....**Mimus magnirostris** (p. 241)

aa. Pileum and back brownish gray or grayish brown streaked with dusky; sides and flanks heavily streaked with dusky; lateral rectrices merely tipped with white, the terminal white spot occupying much less than one-fourth the inner web. (*Mimus gundlachii.*)

b. Color of upper parts grayer (brownish drab-gray). (Watlings Island and Rum Cay, perhaps also other more southern islands of Bahama group; north coast of Cuba.).....**Mimus gundlachii gundlachii** (p. 241)

bb. Color of upper parts browner (broccoli brown or between broccoli and hair brown).

c. Smaller (adult male averaging wing 116.8, tail 125.5, exposed culmen 21.3, tarsus 38.4; adult female, wing 113.6, tail 120.7, exposed culmen 20.8, tarsus 37.2); back, etc., less distinctly streaked, chest distinctly shaded with gray, and white tips to rectrices averaging smaller. (Bahamas, except more southern islands.).....**Mimus gundlachii bahamensis** (p. 243)

cc. Larger (adult male averaging wing 125.7, tail 133.4, exposed culmen 22.9 tarsus 39.5; adult female, wing 120, tail 125.8, exposed culmen 22.2, tarsus 37.5); back, etc., more distinctly streaked, chest very faintly (if at all) tinged with gray, and white tips to rectrices averaging larger. (Island of Jamaica.)

Mimus gundlachii hillii (p. 244)

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[a] *Mimus gilvus* (not *Turdus gilvus* Vieillot) Stone, Proc. Ac. Nat. Sci. Phila., 1899, 312 (Plain of Tolima, Colombia).—*Mimus gilvus tolimensis* Ridgway, Smithsonian Misc. Coll. (quarterly issue), xlvii, Aug. 6, 1904, 113 (Plain of Tolima, Colombia; coll. Acad. Nat. Sci. Phila.).

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MIMUS POLYGLOTTOS POLYGLOTTOS (Linnæus.)

MOCKINGBIRD.

Adult male.—Above plain brownish gray (deep smoke gray); wings and tail dull blackish slate or slate-blackish with pale slate-gray edgings, these broadest on secondaries (especially the terminal portion, where sometimes inclining to white); middle and greater wing-coverts narrowly tipped with dull white or grayish white, forming two narrow bands (these indistinct in worn plumage); primary coverts white, usually with a subterminal spot or streak of dusky; base of primaries white, this most extended on the two innermost, where occupying at least basal half of both webs, often much more, that on the longer quills sometimes entirely concealed by overlying primary coverts; outermost rectrix white, sometimes with a trace of dusky or grayish on outer web; second rectrix with outer web mostly blackish or dusky, the inner web mostly white; third rectrix blackish or dusky, with more or less (never much more, usually much less, than half) of the terminal and basal portions white; a very indistinct superciliary stripe of pale gray or grayish white; eyelids grayish white; lores dusky; auricular region grayish, indistinctly streaked (very narrowly) with whitish; suborbital and malar regions dull white, usually faintly barred or transversely flecked with grayish or dusky; chin and throat dull white, margined along each side by a more or less distinct dusky submalar streak; chest and sides of breast pale smoke gray, passing into a more buffy hue on sides and flanks, the under tail-coverts pale buff or buffy white; abdomen and center of breast white; bill black, the basal portion of mandible brownish; iris light grayish yellow; legs and feet dusky (in dried skins); length (skins), 220–255 (239); wing 106–120 (111.4); tail, 110–134 (119.9); exposed culmen, 17–18.5 (17.9); tarsus, 29.5–34 (32.5); middle toe, 19–20.5 (20.2).[a]

Adult female.—Similar to the adult male, but averaging slightly smaller and usually with the white of primaries and lateral rectrices slightly more restricted; length (skins), 208–235 (225); wing 100–111.5 (104.8); tail, 100.5–114.5 (108.5); exposed culmen, 16–18 (17); tarsus, 30.5–34 (31.6); middle toe, 18.5–21.5 (19.9).[a]

Young.—Above paler brownish gray or grayish brown, passing into wood brown or isabella color on rump and upper tail-coverts, where, together with the back, the feathers have indistinct mesial streaks of darker; under parts dull white (passing into pale buffy or buffy white posteriorly), the chest, breast (at least laterally), sides, and flanks spotted with dusky; wings and tail much as in adults, but on greater wing-coverts and secondaries broadly edged with light buffy gray or pale wood brown, the tertials margined terminally with pale grayish buff or buffy white, the middle and greater coverts more broadly

[a] Ten specimens.

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tipped with white than in adults; white of lateral rectrices clouded or suffused terminally with grayish or dusky.

Eastern United States; northward, regularly (but locally), to Maryland, southern Ohio, southern half of Indiana and Illinois, Missouri, etc., irregularly to Massachusetts, southeastern New York (Long Island, etc.), New Jersey, Pennsylvania, northern Indiana and Illinois, and Iowa, sporadically to Maine (Calais; Portland), Ontario (Hamilton), southern Wisconsin (Racine, breeding), and southern Minnesota; breeding and resident throughout its range, except where occurring accidentally; southward to southern Florida and along the Gulf coast to eastern Texas, and to Bahama Islands[a] (Abaco, Andros, New Providence, and Biminis islands). Bermudas (introduced in 1893). Island of Little Cayman, south of Cuba?

[*Turdus*] *polyglottos* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 169 (based chiefly on *The Mock Bird* Catesby, Nat. Hist. Carolina, 27, pl. 27); ed. 12, i, 1766, 293, part.

Turdus polyglottos BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1824, 32 (crit.); Ann. Lyc. N. Y., ii, 1826, 74.

[*Turdus*] *polyglottus* GMELIN, Syst. Nat., i, 1788, 812.—LATHAM, Index Orn.,i, 1790, 339.

Turdus polyglottus WILSON, Am. Orn., ii, 1810, 14, pl. 10, fig. 1.—LESSON, Traité d'Orn., 1831, 410.—AUDUBON, Orn. Biog., i, 1831, 108, pl. 21.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 320.—PEABODY, Rep. Orn. Mass., 1839, 300 (Massachusetts, rare).

Mimus polyglottus BONAPARTE, Geog. and Comp. List, 1838, 17.—HOY, Proc. Ac. Nat. Sci. Phila., vi, 1853, 309 (Wisconsin); Ann. Rep. Smithson. Inst. for 1864 (1865), 437 (Missouri).—REED, Proc. Ac. Nat. Sci. Phila., vi, 1853, 398 (Ohio).—KENNICOTT, Trans. Ills. Agric. Soc., i, 1855, 582 (Illinois).—MAXIMILIAN, Journ. für Orn., 1858, 179.—BAIRD, Rep. Pacific R. R. Surv., ix,

[a] Mr. Cory refers the mockingbirds of Andros, Biminis, and Abaco islands, Bahamas, to the continental form, and so far as I have been able to examine specimens he seems to be essentially right in doing so. I have only seen one each from Andros and Abaco, and none from the Biminis. The Andros and Abaco specimens examined certainly agree with *M. p. polyglottos* in having the inner web of the third rectrix dusky for much the greater part; but they seem to be, like other West Indian specimens (*M. p. elegans* and *M. p. orpheus*) whiter beneath as well as smaller, and thus representing intergrades between the continental and Antillean forms. Comparative measurements are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
Males.					
Ten adult males of *M. p. polyglottos* from eastern United States (average)	114.4	119.9	17.9	32.5	20.2
One adult maleof *M. p. polyglottos* (?) from Andros Island, Bahamas	107	110	17.5	32.5	20
One adult maleof *M. p. polyglottos* (?) from Abaco Islands, Bahamas	115.5	115.5	17	32.5	20.5
Thirty-nine adult males of *M. p. orpheus* (average)	108.3	111.2	17.9	31.9	20.9

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1858, 344, part; Cat. N. Am. Birds, 1859, no. 253; Review Am. Birds, 1864, 48, part.—SCLATER, Proc. Zool. Soc. Lond., 1859, 340, part (monogr.).—WHEATON, Ohio Agric. Rep. for 1860 (1861), 365 (Ohio).—BARNARD, Ann. Rep. Smithson. Inst. for 1860 (1861), 436 (Pennsylvania).—TAYLOR, Ibis, 1862, 128 (Florida).—ALLEN, Proc. Essex Inst., iv, 1864, 67 (Massachusetts); Mem. Bost. Soc. N. H., i, 1868, 523 (n. Indiana); Bull. Mus. Comp. Zool., ii, 1871, 259 (e. Florida, winter).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 282 (near New York City).—BOARDMAN, Am. Nat., v, 1871, 121 (Calais, Maine, 1 spec.).—MAYNARD, Birds Florida, 1872, 16.—COUES, Check List, 1873, no. 8, part; 2d ed., 1882, no. 15, part; Birds Northwest, 1874, 8, part; Birds Col. Val., 1878, 53, part.—SNOW, Birds Kansas, 1873, 5 (common).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 49, part, pl. 3, fig. 4.—LANGDON, Birds Cincinnati, 1877, 3 (rare sum. resid.; Madisonville, Jan. 1).—BICKNELL, Bull. Nutt. Orn. Club, iii, 1878, 129 (Riverdale, New York, Oct. 28 and Nov. 21, 2 specs.); Auk, i, 1884, 131 (Harlem R., New York, 1 spec., Oct. 10, 1880).—BROWN (N. C.), Bull. Nutt. Orn. Club, iii, 1878, 169 (Coosada, Alabama; habits).—BREWER, Bull. Nutt. Orn. Club, iv, 1879, 64 (Nantucket, Massachusetts, 1 spec., Oct. 8, 1878).—BERIER, Bull. Nutt. Orn. Club, v, 1880, 46 (Gravesend, Long Island, 1 spec., Aug. 9, 1879); vi, 1881, 125 (Fort Hamilton, Long Island, Oct. 1, 2, 1880).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 11, part.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 338, part.—TOWNSEND, Auk, i, 1884, 192 (Arlington, Massachusetts, breeding).—CORY, Cat. West Ind. Birds, 1892, 121 (Abaco, Biminis, and Andros islands, Bahamas).—NEHRLING, Our Native Birds, etc., i, 1893, 41, part, pl. 2.—DRURY, Journ, Cinc. Soc. N. H., xix, 1900, 174 (Clermont Co., Ohio, resident).—BONHOTE, Ibis, 1899, 507 (New Providence, Bahamas; crit.); 1903, 276 (Little Abaco and Great Abaco, Bahamas; crit.; descr. nest and eggs).—(?) NICOLL, Ibis, 1904, 590 (Little Cayman).

[*Mimus*] *polyglottus* BONAPARTE, Consp. Av., i, 1850, 276.—COUES, Key N. Am. Birds, 1872, 74, part.—SHARPE, Hand-list, iv, 1903, 102.

M[imus] polyglottus, NELSON, Bull. Essex Inst., viii, 1876, 94; 152 (n. e. Illinois, rare summer resid.; Racine, Wisconsin, breeding).—COUES, Key N. Am. Birds, 2d ed., 1884, 250, part; 5th ed., i, 1903, 283.

Mimus polyglottos AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 703, part.—BUTLER, Bull. Brookv. Soc. N. H., no. 2, 1886, 37 (Franklin Co., Indiana, summer res.); Birds Indiana, 1897, 1106 (summer resid. s. half of State, whole year n. to Terre Haute).—COOKE, Bird Migr. Miss. Val., 1888, 265, part (St. Louis, Missouri, Burlington, Iowa, and Peoria, Illinois, winter; other localities, with dates).—DUTCHER, Auk, v, 1888, 183 (Flatbush, Long Island, 1 spec., Nov., 1884).—CHAPMAN, Auk, vi, 1889, 304 (Englewood, New Jersey, occasionally breeding).—RIDGWAY, Orn. Illinois, i, 1889, 105.—MORTIMER, Auk, vii, 1890, 343 (Orange Co., Florida; habits).—NORTHROP, Auk, viii, 1891, 66 (Andros I., Bahamas; song).—ALLEN, Auk, viii, 1891, 67 (Andros I., Bahamas crit.).—MACKAY, Auk, viii, 1891, 120 (Nantucket I., Massachusetts, 3 specimens).—MILLER, Auk, viii, 1891, 119 (Cape Cod, Massachusetts, 1 spec., Sept. 11, 1890).—CORY, Auk, viii, 1891, 395 (Great Island, Massachusetts, 1 spec., Aug. 30, 1891).—STONE, Auk, xi, 1894, 140 (Cape May, New Jersey, 1 spec., Aug. 27; Tuckerton, New Jersey, breeding).—BROWNE, Auk, xii, 1895, 84 (Framingham, Massachusetts, 1 spec., Nov. 25, 1894).—McILWRAITH, Birds Ontario, 1894, 388 (Hamilton, 1 pair, summer 1883; Chatham, w. Ontario, 1 spec., 1860).—BATCHELDER, Auk, xii, 1895, 308 (Groton, e. Massachusetts, breeding).—PRENTISS, Auk, xiii, 1896, 237 (Bermudas; introduced in 1893).—DWIGHT, Auk, xiii, 1896, 344 (Canadian records).—JUDD, Yearbook U. S. Dept. Agric. for 1895 (1896), 415–416, fig. 108 (range, habits, food, etc.).—BROWN

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(N. C.), Auk, xiv, 1897, 224, 324 (Portland, Maine, 1 spec., Jan., reappearing Mar. 6).—BALL, Auk, xiv, 1897, 324 (Worcester, Massachusetts, 1 spec., Apr., May).—BENT, Auk, xv, 1898, 59 (Taunton, Massachusetts, 1 spec., Nov. 11, 1897).—SCUDDER (B. A.), Auk, xv, 1898, 333 (Bristol Co., Massachusetts, 1 spec., Apr. 30, 1896).—CHILDS, Auk, xvii, 1900, 390 (Barnegat, New Jersey, 1 pair; Floral Park, Long Island, 1 spec., Aug. 27).—ALLEN (F. H.), Auk, xix, 1902, 292 (near Boston, Massachusetts, 1 spec., Feb., Mar., 1902).—BRAISLIN, Auk, xx, 1903, 53 (Rockaway Beach, Long Island, 1 spec., Sept. 14, 1902).—BLAKE (F. G. and M. C.), Auk, xxi, 1904, 392 (Jamaica Plain, Massachusetts; 1 spec., all winter to Apr. 6, 1894).—ALLEN (G. M.), Auk, xxii, 1905, 132 (Elbow Cay, n. Bahamas).—STOCKARD, Auk, xxii, 1905, 281 (Mississippi; breeding habits, etc.).

M[imus] polyglottos RIDGWAY, Man. N. Am. Birds, 1887, 541, part.

Orpheus polyglottus (not of Swainson, 1827) AUDUBON, Synopsis, 1839, 87; Birds Am., oct. ed., ii, 1841, 187, pl. 138.

Orpheus polygothus [typographical error] PUTNAM, Proc. Essex Inst., i, 1856, 224.

Mimus polyglottos orpheus (not *Turdus orpheus* Linnæus) CORY, Auk, viii, July, 1891, 296 (Bimini Is., Bahamas), 298 (Abaco I.), 350 (Abaco).

Mimus polyglottos elegans (not *Mimus elegans* Sharpe) RIDGWAY, Auk, viii, 1891, 333 (Abaco I., Bahamas; crit.).

MIMUS POLYGLOTTOS LEUCOPTERUS (Vigors).

WESTERN MOCKINGBIRD.

Similar to *M. p. polyglottos* but larger, with relatively shorter tail; gray of upper parts slightly paler and more buffy, and under parts more strongly tinged with buffy.

Adult male.—Length (skins), 221–258 (243); wing, 103–122.5 (115.4); tail, 109.5–132.5 (119.9); exposed culmen, 17.5–20 (18.1); tarsus, 30–34.5 (32.7); middle toe, 19–23 (21).[a]

Adult female.—Length (skins), 205–254 (232); wing, 104–118.5 (110.7); tail, 105.5–127.5 (115.2); exposed culmen, 17–18.5 (17.5); tarsus, 30.5–33.5 (32.4); middle toe, 19–22.5 (20.7).[b]

[a] Thirty-four specimens.

[b] Fourteen specimens.

Specimens from different geographic areas average, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Texas	115.9	120.2	18	33.5	21.6
Ten adult males from Arizona (8) and Sonora (2)	118.3	123.1	18	32.7	21
Five adult males from Cape San Lucas	111.3	116.1	18	32.7	20.7
Four adult males from California	114.9	123.2	18.6	32.7	20.6
Five adult males from southern Mexico	113	119.6	18.2	31.4	20.2
FEMALES.					
Five adult females from Texas	108.4	111.4	17.5	32.2	20.7
Four adult females from Arizona	114.5	121.1	17.5	32.4	20.9
Two adult females from Cape San Lucas	113.5	120	17.5	32.7	21.2
Two adult females from California	106.2	109	17.5	32.2	20
One adult female from Vera Cruz (Papantla)	110.5	113	.....	33	20

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Southwestern United States, from Gulf coast, in Texas, to the Pacific coast; north to Indian Territory, Oklahoma, western Kansas (Fort Wallace), eastern Wyoming (Fort Fetterman; Cheyenne), and central California; southward to Cape San Lucas and over whole of Mexico as far as States of Jalisco (Ocotlan; Ameca), Michoacan (La Salada), Morelos (Yautepec), Oaxaca (Tehuantepec, Oct.; San Mateo del Mar, May 15; Metla, June 28), and Vera Cruz (Coatzacoalcos; Papantla; Cordova; Orizaba); Tres Marias Islands; Guadalupe Island (accidental); Santa Barbara Islands.

Orpheus polyglottus (not *Turdus polyglottos* Linnæus) SWAINSON, Zool. Journ., iii, 1827, 167 (Mexico); Philos. Mag., n. s., i, 1827, 369 (Real del Monte, Hidalgo, Mexico).—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 310 (New Mexico).

Mimus polyglottus McCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 216 (Texas).—WOODHOUSE, in Rep. Sitgreaves's Expl. Zuñi and Col. R., 1853, 72 (Texas; New Mexico; Indian Territory?).—KENNERLY, Rep. Pacific R. R. Surv., iv, pt. vi, 1856, 11 (Bill Williams R., Arizona); x, pt. iv, 1859, 25 (do.; Texas).—SCLATER, Proc. Zool. Soc. Lond., 1857, 212 (Orizaba, Vera Cruz); 1859, 340, part (monogr.; Cordova and Orizaba, Vera Cruz).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 344, part; Cat. N. Am. Birds, 1859, no. 253, part; Proc. Ac. Nat. Sci. Phila., xi, 1859, 303 (Cape St. Lucas); Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 12 (Brownsville and Eagle Pass, Texas; Gila R., Arizona; Fort Yuma, California); Review Am. Birds, 1864, 48, part.—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 106 (New Mexico).—HEERMANN, Rep. Pacific R. R. Surv., x, pt. vi, 1859, 44 (Posa Creek and Los Angeles, California; w. Texas).—COUES, Ibis, 1865, 159 (New Mexico); Proc. Ac. Nat. Sci. Phila., xviii, 1866, 65 (Fort Whipple, Arizona); Check List, 1873, no. 8, part; 2d ed., 1882, no. 15, part; Birds Northwest, 1874, 8, part; Birds Col. Val., 1878, 53, part.—DRESSER, Ibis, 1865, 481 (Texas).—BUTCHER, Proc. Ac. Nat. Sci. Phila., xx, 1868, 149 (Laredo, Texas).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 543 (hot and temp. regions Vera Cruz; breeding at Orizaba).—COOPER, Orn. Cal., 1870, 21, excl. syn. part.—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1872, 277 (Tres Marias I., w. Mexico).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 267 (Mazatlan; Tres Marias).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 49, part; iii, 1874, 501 (El Paso Co., Colorado).—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 97 (New Mexico; Arizona), 154 (Arizona); 1876, 227 (Los Angeles and Santa Barbara, California); Zool. Exp. W. 100th Merid., 1875, 151 (Pueblo, Colorado; Camp Bowie, Arizona).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 119 (Fort Brown, Texas, resident).—RIDGWAY, Bull. Nutt. Orn. Club, iii, 1878, 65 (Calaveras Co., California, Dec.); Nom. N. Am. Birds, 1881, no. 11, part.—BELDING, Proc. U. S. Nat. Mus., i, 1879, 396 (Marysville, Stockton, etc., centr. California); v, 1883, 534 (Lower California); vi, 1884, 344 (Guaymas, Sonora), 345 (Lower California).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 35.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 338, part.—SHUFELDT, Bull. Nutt. Orn. Club, vii, 1882, 180 (near Fort Fetterman, Wyoming, breeding).—WILLISTON, Bull. Nutt. Orn. Club, viii, 1883, 240 (Fort Wallace, w. Kansas).—BECKHAM, Auk, ii, 1885, 140 (Pueblo, Colorado).—LLOYD, Auk, iv, 1887, 297 (Tom Green and Concho counties, w. Texas, resident).—NEHRLING, Our Native Birds, i, 1893, 41, part.

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[*Mimus*] *polyglottus* COUES, Key N. Am. Birds, 1872, 74, part.—SCLATER and SALVIN, Nom. Av. Neotr, 1873, 3.

Mimus polyglottis GAMBEL, Proc. Ac. Nat. Sci. Phila., iii, 1846, 114 (Santa Barbara, California).

M[*imus*] *polyglottis* GAMBEL, Journ. Ac. Nat. Sci. Phila., ii, 1847, 42 (Santa Barbara).

Calandria poliglota CUBAS, Cuadra Geog. Estad. Descr. Est. Unid. Mex., 1884, 177.

Mimus polyglottos AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 703, part.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 132 (Chietla, Puebla, Dec.).—BRYANT (W. E.), Bull. Cal. Ac. Sci., ii, 1887, 308 (Guadalupe I., 1 pair, Mar. 16).—COOKE, Bird Migr. Miss. Val., 1888, 265, part (Tom Green and Concho counties, w. Texas); Bull. 37, Col. Agric. Coll., 1897, 119 (Colorado, summer res., chiefly s. e. parts).—SCOTT, Auk, v, 1888, 159 (s. Arizona, up to 5,000 ft., resident; habits).—ALLEN, Auk, v, 1888, 160 (Arizona; Texas; crit.); Bull. Am. Mus. N. H., v, 1893, 41 (Oputo, Sonora; n. Chihuahua).—BOND, Auk, xi, 1894, 258 (near Cheyenne, Wyoming, May, several); xii, 1895, 309 (Cheyenne, May 23, 26).—GRINNELL (J.), Pub. i, Pasadena Ac. Sci., 1897, 20 (San Clemente I., California, breeding); Pub. ii, Pasadena Ac. Sci., 1898, 47 (Los Angeles Co., California, resident); Auk, xv, 1898, 236 (Santa Catalina I., California, Dec.).—MAILLIARD, Auk, xv, 1898, 197 (San Geronimo, Marin Co., California, 1 spec., Dec. 30, 1894).—NELSON, N. Am. Fauna, no. 14, 1899, 57 (Maria Madre I., Tres Marias).—CARROLL, Auk, xvii, 1900, 348 (Refugio Co., Texas).—OBERHOLSER, Proc. U. S. Nat. Mus., xxii, 1900, 233 (Santa Catalina I., California; crit.).

M[*imus*] *polyglottos* RIDGWAY, Man. N. Am. Birds, 1887, part.

Merinus [typographical error] *polyglottus* BAIRD, Rep. Ives' Exp. Colorado R., pt. vi, 1861, 5.

Orpheus leucopterus VIGORS, Zool. Voy. "Blossom," 1839, 17 (no locality).

Mimus leucopterus BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 328.

[*Mimus*] *leucopterus* SHARPE, Hand-list, iv, 1903, 102.

Mimus polyglottos leucopterus MEARNS, Auk, xix, Jan., 1902, 70 (descr.; crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 327 (check list no. 703*a*).—GRINNELL (J.), Pacific Coast Avifauna, no. 3, 1902, 67 (California range).—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 194 (Cape district, Lower California, resident; crit.).—STONE and REHN, Proc. Ac. Nat. Sci. Phila., 1903, 29 (Otero Co., New Mexico).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 435.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 59 (Huachuca Mts., Arizona, up to 5,500 ft.).

Mimus canadatus [typographical error, corrected on p. "xxxxv"=xxxv] BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 345, in text (Los Angeles Valley, California; coll. U. S. Nat. Mus.).

M[*imus*] *caudatus* BAIRD, Rep. Pacific R. R. Surv., ix, 1858, p. "xxxxv"=xxxv.

Mimus polyglottus var. *caudatus* COUES, Ibis, 1865, 538 (Arizona).—RIDGWAY, Bull. Essex Inst., v, 1873, 179 (Colorado).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 12 (Tehuantepec City, Oaxaca, Oct.).

Mimus caudatus XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 191 (Fort Tejon, California).—COOPER, Am. Nat., iii, 1869, 186, in text (San Diego, California); Proc. Cal. Acad. Sci., 1870, 75 (Colorado Valley).

Var. *Mimus caudatus* BAIRD, Cat. N. Am. Birds, 1859, no. 253*a*.

Oreoscoptes montanus [*lapsus*] COUES, Ibis, 1865, 164.

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MIMUS POLYGLOTTOS ELEGANS (Sharpe).

INAGUA MOCKINGBIRD.

Similar to *M. p. polyglottos*, but tail shorter (averaging little if any longer than wing), gray of upper parts slightly paler, under parts much whiter (the chest very slightly, if at all, tinged with pale grayish buff or buffy gray), inner web of third rectrix more extensively white (at least half its area, sometimes the whole, white), and white, at base of longer primaries usually entirely concealed by primary coverts.

Adult male.—Length (skins), 224–228 (226); wing, 110–112 (111); tail 110.5–112 (111.2); exposed culmen, 17–17.5 (17.2); tarsus, 30.5–31.5 (31); middle toe, 20.5–21.5 (21).[a]

Adult female.—Length (skin), 206; wing, 97.5; tail, 100.5; exposed culmen, 16; tarsus, 29; middle toe, 19.[b]

Island of Inagua, Bahamas.

Mimus polyglottus (var. *bahamensis* ?) BRYANT, Bost. Journ. Nat. Hist., xi, 1866, 68 (not *Mimus bahamensis* Bryant, 1859).

[*Mimus*] *dominicus* (not *Turdus dominicus* Linnæus) GRAY, Hand-list, i, 1869, 262, no. 3826.

Mimus orpheus, var. *dominicus* CORY, Birds Bahama I., 1880, 48.

Mimus elegans SHARPE, Cat. Birds Brit. Mus., vi, 1881, 339 (Inagua, Bahamas; coll. Brit. Mus.).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 426 (reprint of original descr.).—CORY, Auk, iii, 1886, 20; Birds West Ind., 1889, 34.

Mimus polyglottos elegans CORY, Auk, viii, July, 1891, 298 (Inagua; crit.), 351 (Inagua).

Mimus polyglottus elegans CORY, Cat. West Ind. Birds, 1892, 19, 121, 126, 127.

[*Mimus*] *elegans* SHARPE, Hand-list, iv, 1903, 102.

Mimus polyglottos orpheus (not *Turdus orpheus* Linnæus) CORY, Auk, viii, 1891, 45, part (crit.).

MIMUS POLYGLOTTOS ORPHEUS (Linnæus).

JAMAICAN MOCKINGBIRD.

Similar to *M. p. polyglottos*, but averaging smaller, with relatively shorter tail; inner web of third rectrix with at least half, usually the greater part, often the whole, of its area white; under parts whiter, the chest very faintly, if at all, tinged with pale grayish buff or buffy gray. More like *M. p. elegans* but gray of upper parts very slightly darker, and white at base of primaries usually more extended (more rarely concealed by primary coverts).

Adult male.—Length (skins), 211–247 (228); wing, 96–114.5 (108.4); tail, 98.5–119 (111.1); exposed culmen, 16–19.5 (17.9); tarsus, 27.5–34.5 (32); middle toe, 17.5–22.5 (20.9).[c]

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[a] Two specimens.

[b] One specimen. None of the three specimens examined have the sex determined, but according to amount of white on primaries are probably as above.

[c] Thirty-four specimens.

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Adult female.—Length (skins), 207–231 (220); wing, 94–111.5 (102.9); tail, 98.5–118.5 (108.8); exposed culmen, 15.5–19.5 (17.8); tarsus, 29–34 (31.1); middle toe, 19.5–22 (20.4).[a]

Islands of Cuba (including Isle of Pines), Grand Cayman, Jamaica, and Porto Rico, Greater Antilles.

[*Turdus*] *orpheus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 169 (based on *Lesser Mock-Bird, Turdus cinereus minor*, Edwards, Nat. Hist., Birds, ii, pl. 78); ed. 12, i, 1766, 293.—LATHAM, Index Orn., i, 1790, 339.

Turdus orpheus VIEILLOT, Ois. Am. Sept., ii, 1807, 12, pl. 68.

M[imus] orpheus GRAY, Gen. Birds, i, 1847, 221.—NEWTON (A. and E.), Handb. Birds Jamaica, 1881, 105.

[*Mimus*] *orpheus* BONAPARTE, Consp. Av., i, 1850, 276.—GRAY, Hand-list, i, 1869, 261, no. 3816.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.—CORY, List Birds West Ind., 1885, 6 (Jamaica; Porto Rico).—SHARPE, Hand-list, iv, 1903, 102.

Mimus orpheus SCLATER, Proc. Zool. Soc. Lond., 1859, 341 (monogr.); Cat. Am. Birds, 1862, 9.—MARCH, Proc. Ac. Nat. Sci. Phila., 1863, 290 (Jamaica).—BAIRD, Review Am. Birds, 1864, 50 (Spanishtown, Jamaica).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 340, part (Jamaica; Porto Rico).—CORY, Auk, iii, 1886, 19; Birds West Ind., 1889, 33.—RIDGWAY, Proc. U. S. Nat. Mus., x, 1887, 572 (Grand Cayman; crit.).—GUNDLACH, Orn. Cubana, 1893, 51.—NICOLL, Ibis, 1904, 579 (Grand Cayman; crit.).—BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 207 (Isle of Pines).

Mimus orpheus? CORY, Auk, iii, 1886, 501 (Grand Cayman).

[a] Twenty-four specimens.

Specimens from different islands compare as follows in average measurements:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Cuba	107.1	109.1	17.6	31.7	21.3
Nine adult males from Grand Cayman	108.3	112.3	18.3	32.2	20.7
Twelve adult males from Jamaica	108.8	111.5	17.9	31.7	20.5
Five adult males of *M. p. dominicus* from Haiti	107.6	107.2	17.7	31.6	21
Six adult males from Porto Rico	109	113.9	17.8	32.7	21.5
FEMALES.					
Six adults females from Cuba	101.8	107	17.5	30.3	20.3
Two adult females from Grand Cayman	106.2	112.2	18.5	33.2	20.7
Twelve adult females from Jamaica	102.5	107.2	17.5	30.9	20.2
One adult female of *M. p. dominicus* from Haiti	103.5	102	18	29.5	20.5
Four adult females from Porto Rico	104.4	108.5	18.8	31.9	21.1

After carefully comparing the above considerable series of specimens I am unable to make out satisfactorily differences between specimens from different islands sufficient, in my judgment, to justify separation into local forms. An exception may be made in the case of birds from Haiti, which seem to have the white on the inner primaries decidedly more extended than those from other islands, only one of the four undoubted males from that island examined having as large a space of dusky on the subterminal portion of the innermost (first) primary as that showing the smallest amount from other islands, while in one of the four the innermost primary is entirely white. A larger series from Haiti would be necessary to settle the question, however.

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Mimus polyglottos orpheus CORY, Auk, viii, 1891, 45, part, 350, part (Great Bahama I.).—BOWDISH, Auk, xx, 1903, 19 (Porto Rico; descr. nest; food).

Mimus polyglottus orpheus CORY, Auk, viii, July, 1891, 294 (Cuba). 295 (Berry I., Bahamas); ix, 1892, 48 (Maraguana I., Bahamas); Cat. W. I. Birds, 1892, 121, 157, part (Great. Bahama, Abaco, Berry Islds., New Providence, Andros, and Maraguna, Bahamas; Cuba, Isle of Pines, Grand Cayman, and Jamaica, Greater Antilles).

Mimus polyglottus (not *Turdus polyglottos* Linnæus) GOSSE, Birds Jamaica, 1847, 144.—HILL, Proc. Ac. Nat. Sci. Phila., 1863, 304 (Jamaica; crit.).—BREWER, Proc. Bost. Soc. N. H., iii, 1860, 307 (Cuba).—GUNDLACH, Journ. für Orn., 1861, 324 (Cuba); 1872, 408 (do.); 1874, 311 (Porto Rico); 1878, 159, 166 (do.; crit.); Repert. Fisico Nat. Cuba, i, 1865, 230; Journ. für Orn., 1872, 408 (Cuba); Anal. Soc. Esp. Hist. Nat., vii, 1878, 173 (Porto Rico).—ALBRECHT, Jour. für Orn., 1862, 194, 201 (Jamaica).—CORY, Auk, iii, 1886, 19 (do.); Birds West Ind., 1889, 33 (do.).

[*Mimus*] *polyglottus* CORY, List Birds West Ind., 1885, 6 (Cuba).

Mimus polyglottos CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 312 (near Trinidad, s. Cuba).

Mimus polyglottus, var. *cubanensis* BRYANT, Proc. Bost. Soc. N. H., x, 1866, 68 (Cuba).

Mimus polyglottus, var. *portoricensis* BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 68 (Porto Rico); Journ. für Orn., 1866, 184 (crit.).

Mimus polyglottos portoricensis CORY, Auk, viii, Jan., 1891, 46 (crit.).

Mimus polyglottus portoricensis CORY, Cat. West Ind. Birds, 1892, 19, 121, 132, 157 (Porto Rico).

[*Mimus*] *portoricensis* SHARPE, Hand-list, iv, 1903, 103.

MIMUS POLYGLOTTOS DOMINICUS (Linnæus).

HAITIAN MOCKINGBIRD.

Similar to *M. p. orpheus*, but with white at base of primaries much more extended, the innermost (first) primary sometimes entirely white.

Adult male.—Length (skins), 228–233 (230); wing, 100–115.5 (107.6); tail, 103–110.5 (107.2); exposed culmen, 16–19 (17.7); tarsus, 29.5–33.5 (31.6); middle toe, 18.5–22.5 (21).[a]

Adult female.—Length (skin), 220; wing, 103.5; tail, 102; exposed culmen, 18; tarsus, 29.5; middle toe, 20.5.[b]

Island of Haiti, Greater Antilles.

[*Turdus*] *dominicus* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 295 based on *Le Merle de S. Domingue*, *Merula dominicensis*, Brisson, Orn., ii, 284, pl. 27, fig. 1).—LATHAM, Index Orn., i, 1790, 340.

M[*imus*] *dominicus* GRAY, Gen. Birds, i, 1847, 221.

[*Mimus*] *dominicus* BONAPARTE, Consp. Av., i, 1850, 276.—GRAY, Hand-list, i, 1869, 262, no. 3826.—CORY, List Birds West Ind., 1885, 6.

Mimus dominicus SALLÉ, Proc. Zool. Soc. Lond., 1857, 232 (Santo Domingo).—SCLATER, Proc. Zool. Soc. Lond., 1859, 341 (monogr.).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 341, footnote.—CORY, Birds Haiti and San Dom., 1885, 21; Auk, iii, 1886, 20; Birds W. I., 1889, 34.—CHRISTY, Ibis, 1897, 319 (Sanchez, La Vega, etc., Santo Domingo; habits).

[a] Five specimens. [b] One specimen.

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Minus [typograpical error] *dominicus* CHERRIE, Contr. Orn. San. Dom., 1896, 10 (habits).

Mimus polyglottus var. *dominicus* BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 63.

Mimus orpheus dominicus CORY, Bull Nutt. Orn. Club, vi, July, 1881, 151 (Haiti).

Mimus orpheus (not *Turdus orpheus* Linnæus) SHARPE, Cat. Birds Brit. Mus., vi, 1881, 340, part (Santo Domingo).

Mimus polyglottos orpheus CORY, Auk, viii, 1891, 45, part.

Mimus polyglottus orpheus CORY, Cat. West Ind. Birds, 1892, 121, 157, part (Santo Domingo).

[*Mimus*] *orpheus* SHARPE, Hand-list, iv, 1903, 102, part.

Turdus merle MÜLLER, Syst. Nat. Suppl., 1776, 139 (based on *Merle cendré de S. Domingue* Daubenton, Pl. Enl., pl. 558, fig. 1; see Cassin, Proc. Ac. Nat. Sci. Phila., 1864, 249).

MIMUS GILVUS GILVUS (Vieillot).

GUIANA MOCKINGBIRD.

Adult male.—Above plain brownish gray (mouse gray, or between mouse gray and smoke gray), the pileum narrowly streaked with dusky; wings and tail dull blackish slate, with pale gray edgings, these broader and merging gradually into the darker color on greater wing-coverts, secondaries, and rectrices, narrower, sharply defined, and paler (usually white, or nearly so) on primaries; middle and greater wing-coverts more or less distinctly tipped with pale gray or grayish white, forming two narrow and fairly distinct bands; rectrices (except middle pair) abruptly tipped with white, more extensively on inner web, the white terminal area on lateral rectrix about 23–35 mm. in length, on other rectrices decreasing in extent toward middle pair; an indistinct superciliary stripe of grayish white, becoming purer white anteriorly, where involving upper portion of lores; a dusky loral streak, broadest at anterior angle of eye; a dusky or dark gray postocular streak; suborbital, malar, and auricular regions (except upper portion of the last) white, the auricular region more or less tinged or streaked with pale gray, the suborbital region usually with minute dusky bars; under parts white, the chest and sides of breast more or less strongly tinged with pale gray, the flanks and under tail-coverts more or less tinged with buff; flanks broadly streaked with dusky, the shorter under tail-coverts usually narrowly streaked with the same; bill black, the basal portion of mandible more or less brownish; iris yellowish; legs and feet dusky (in dried skins); length (skins), 200–239 (220); wing, 98–106.5 (102); tail, 94–113.5 (102.9); exposed culmen, 17–19 (17.7); tarsus, 29.5–33.5 (32.7); middle toe, 19.5–21.5 (20.6).[a]

Adult female.—Similar to the adult male, but slightly smaller, chest more strongly tinged with pale gray, and white tips to rectrices slightly smaller; length (skins), 203–238 (228); wing 95.5–105.5

[a] Thirteen specimens from Lesser Antilles.

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(100.9); tail, 94–111.5 (101.5); exposed culmen, 17–18.5 (17.6); tarsus, 30–33.5 (31.7); middle toe, 19.5–21.5 (20.2).[a]

Young.—Above light grayish brown (more decidedly brown on rump and upper tail-coverts), sometimes indistinctly streaked with dusky, especially on back and rump; chest and sides of breast spotted with dusky; wings and tail as in adults, but tips of middle and greater wing-coverts and broad edgings of secondaries dull buffy or pale cinnamon-buff.

Guiana and adjacent parts of Brazil; Lesser Antilles[b] (Grenada, St. Vincent, Santa Lucia, Martinique, and Nevis);[c] St. Thomas, Greater Antilles.

Turdus gilvus VIEILLOT, Ois. Am. Sept., ii, 1807, 15, pl. 68 *bis* (Guiana); Nouv. Dict. d'Hist. Nat., xx, 1818, 296; Enc. Méth., ii, 1823, 677.

M[imus] gilvus GRAY, Gen. Birds, i, 1847, 221.

[*Mimus*] *gilvus* BONAPARTE, Consp. Av., i, 1850, 276.—GRAY, Hand-list, i, 1869, 261, no. 3817.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part.—CORY, List Birds W. I., 1885, 6.—SHARPE, Hand-list, iv, 1903, 104, part.

Mimus gilvus SCLATER, Proc. Zool. Soc. Lond., 1859, 342, part (monogr.; British Guiana); 1871, 268 (Santa Lucia; crit.); Cat. Am. Birds, 1862, 9, part (in synonymy).—PELZELN, Orn. Bras., ii, Abth., 1869, 94 (Forte do Rio Brancho, n. Brazil).—SEMPER, Proc. Zool. Soc. Lond., 1872, 648 (Santa Lucia; song).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 187 (St. Vincent), 268 (Grenada),

[a] Eight specimens from Lesser Antilles.

Specimens from the different islands (so far as sexed specimens are represented in the series examined) compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from St. Vincent	104.3	107.5	18.3	32.4	21
Six adult males from Martinique	101.2	99.7	17.1	31.4	20.2
Two adult males from Grenada	100.7	100.7	17.7	32	20.7
FEMALES.					
Three adult females from St. Vincent	100.8	104.7	17.3	31.3	20
One adult female from Martinique	98.5	94	17	30	19.5
Four adult females from Grenada	101.5	101	17.9	32.4	20.5
One adult female from British Guiana (Paramaribo)	97	97	'15	32.5	21

Having only one Guiana specimen for comparison, I cannot be sure that the West Indian birds of this species are really referable to the typical form. If they are, it seems reasonable to suppose they were first introduced into the French islands from Guiana, since a recognizably distinct form (*M. gilvus tobagensis*) occupies the intermediate island of Tobago. The single Guiana specimen examined is certainly very similar to most examples from the Lesser Antilles, but has a smaller bill than any of them, and is also less in some other measurements. The middle and greater wing-coverts are also more distinctly tipped with white.

[b] Possibly introduced into one or more of the West India islands named above from Guiana.

[c] No specimen from Nevis seen by me.

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278 (Grenadines), 486 (St. Vincent; Grenada).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 36, part (in synonymy, etc.).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 350, part (British Guiana; St. Vincent; Grenada; Santa Lucia).—RIDGWAY, Proc. U. S. Nat. Mus., vii, 1884, 172 (St. Thomas).—SALVIN, Ibis, 1885, 199 (Roraima, British Guiana, 2700–3700 ft.).—CORY, Ibis, 1886, 472 (St. Vincent); Auk, iii, 1886, 20 (excl. syn. part); iv, 1887, 95 (Martinique); Birds West Ind., 1889, 34 (do.); Cat. West Ind. Birds, 1892, 121 (St. Thomas, Greater Antilles; Nevis, Martinique, Santa Lucia, St. Vincent, and Grenada, Lesser Antilles).—WELLS, Proc. U. S. Nat. Mus., ix, 1886, 610 (Grenada; habits; descr. nest and eggs), Auk, xix, 1902, 348 (Carriacou; habits; song; descr. eggs).—NICOLL, Ibis, 1904, 565 (Grenada, song).

[*Mimus gilvus*] *α. gilvus* RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 11 (crit.; synonymy).

MIMUS GILVUS ROSTRATUS Ridgway.

CURAÇAO MOCKINGBIRD.

Similar to *M. g. gilvus* (West Indian specimens), but slightly larger (except feet), with bill much larger, and white of chest less tinged with gray.

Adult male.—Length (skin), 240; wing, 110.5; tail, 117; exposed culmen, 23; tarsus, 32.5; middle toe, 20.[a]

Adult female.—Length (skins), 212–220 (216); wing, 103; tail, 104–106 (105); exposed culmen, 22–23.5 (22.7); tarsus, 33.5; middle toe, 21.[b]

Island of Curaçao, Caribbean Sea (Dutch West Indies.)

Mimus gilvus rostratus RIDGWAY, Proc. U. S. Nat. Mus., vii, July 29, 1884, 173 (Curaçao; coll. U. S. Nat. Mus.).—BERLEPSCH, Journ. für Orn., 1892, 74 (Curaçao; crit.).—PETERS, Journ. für Orn., 1892, 115 (Curaçao).—HARTERT, Ibis, 1893, 294 (Aruba; habits; crit.), 311 (Curaçao; habits), 327 (Bonaire).

[*Mimus*] *rostratus* SHARPE, Hand-list, iv, 1903, 104.

MIMUS GILVUS COLUMBIANUS (Cabanis).

COLOMBIAN MOCKINGBIRD.

Similar to *M. g. gilvus* but larger; gray of upper parts lighter and clearer; white of under parts purer, the chest very faintly, if at all, shaded with gray (mostly in females); paler edgings of wings and tail narrower, and larger wing-coverts more abruptly tipped with white.

Adult male.—Length (skins), 220–245 (231); wing, 108–118.5 (113.7); tail, 109.5–122 (116); exposed culmen, 18–20.5 (19); tarsus, 33.5–35.5 (34.2); middle toe, 20.5–23 (21.6).[c]

Adult female.—Length (skins), 215–236 (227); wing, 104–116.5 (110.6); tail, 113.5; exposed culmen, 18-20 (18.9); tarsus, 33–36 (34.2); middle toe, 20–23.5 (21.7).[d]

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[a] One specimen.

[b] Two specimens.

[c] Six specimens.

[d] Five specimens (tail of only one measured, the others too much abraded).

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Colombia (Bucaramanga; Medellin, Antioquia; San Sebastian, Bonda, El Mamon, and Santa Marta, Santa Marta); Venezuela[a] (?) Costa Rica (El Zarcero)?[b]

M[imus] columbianus CABANIS, Mus. Hein., i, Jan., 1851, 82 (Colombia; Venezuela; coll. Heine Mus.).

Mimus gilvus columbianus BERLEPSCH, Journ,. für Orn., 1884, 279 (Bucaramanga, Colombia).—BANGS, Proc. New Engl. Zool. Club, i, 1899, 80 (San Sebastian and El Mamon, prov. Santa Marta, Colombia).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 180 (Bonda, etc., Santa Marta).

M[imus] gilvus columbianus BERLEPSCH, Journ. für. Orn., 1892, 75, in text.

(?) *Mimus melanopterus* LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., v, 1852; 35, pl. 2 (Venezuela; coll. G. N. Lawrence).—SCLATER, Proc. Zool. Soc. Lond., 1859, 342, part (monogr.; Colombia; Venezuela); Cat. Am. Birds, 1862, 9, part (Rio Negro; Bogota, Colombia).—SCLATER and SALVIN, Proc. Zool Soc. Lond., 1868, 166 (Venezuela); 1879, 492 (Medellin, Colombia).—WYATT, Ibis, 1871, 115, in text, 320 (Santa Marta, Colombia).

(?) [*Mimus*] *melanopterus* GRAY, Hand-list, i, 1869, 261, no. 3834.

(?) [*Mimus gilvus*] *β. melanopterus* RIDGWAY, Proc. U. S. Nat. Mus., v, June 12, 1882, 11, 12 (crit.; synonymy).

(?) *M[imus] gilvus*, subsp. *melanopterus* BERLEPSCH, Journ. für Orn., 1892, 75, in text.

(?) *Mimus gilvus melanopterus* BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 3 (Altagracia, Quiribana de Caicara, Maipure, etc., Venezuela; crit.).

[*Mimus*] *gilvus* (not *Turdus gilvus* Vieillot) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part (Colombia; Venezuela).—SHARPE, Hand-list, iv, 1903, 104, part).

Mimus gracilis (not of Cabanis) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 (Costa Rica).

(?) *Mimus gilvus* (not *Turdus gilvus* Vieillot) TAYLOR, Ibis, 1864, 80 (Orinoco and coast districts, Venezuela).—CORY, Auk, x, 1893, 220 (Tobago; crit.).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 681 (Margarita I., Venezuela).—RICHMOND, Proc. U. S. Nat. Mus., xviii, 1896, 681 (Margarita I.; crit.).—CLARK (A. H.), Auk, xix, 1902, 266 (Margarita I.).

Mimus gilvus SALVIN and GODMAN, Biol. Centr. Am., Aves, i, 1879, 36, part; Ibis, 1880, 116 (Santa Marta, Colombia).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 492 (Medellin, Colombia; crit.).—RIDGWAY, Proc. U. S. Nat. Mus., xi, 1888, 544 (El Zarcero, Costa Rica, alt. 7,000 ft.; crit.); xiv, 1891, 473 (do.).

MIMUS GILVUS GRACILIS (Cabanis).

YUCATAN MOCKINGBIRD.

Similar to *M. g. guatemalensis*, but gray of upper parts clearer (more nearly mouse gray or between mouse gray and slate-gray), wings and tail deep black, the greater wing-coverts with very narrow (if any) gray edgings, white of lateral rectrices more extended (the black basal portion of outer pair usually concealed, or mostly so, by under tail-coverts), and tail relatively longer.

[a] I have not been able to examine a satisfactory series of Venezuelan specimens, and therefore am not sure as to whether the birds of this species from that country should be referred to the present form.

[b] No Costa Rican specimen seen by me.

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Adult male.—Length (skins), 233–268 (249); wing, 102–115.5 (108.2); tail, 119–134 (126.3); exposed culmen, 17.5–20.5 (19.1); tarsus, 31–34.5 (32.9); middle toe, 20.5–22.5 (21.4).[a]

Adult female.—Length (skins), 221–252 (237); wing, 92.5–105.5 (97.9); tail, 107.5–123.5 (113.6); exposed culmen, 17.5–19.5 (18.4); tarsus, 29–33.5 (31.6); middle toe, 18.5–21 (20.3).[b]

British Honduras (Belize; Manatee; Lighthouse and Glovers reefs), Yucatan (Progreso; Puerto Morelos; Tunkas; Tekanto; Merida; Izamal; Cozumel Island; Mujeres Island), Campeche (Campeche), and northeastern Tabasco (Montecristo).

M[imus] gracilis CABANIS, Mus. Hein., i, Jan., 1851, 83, footnote ("Honduras ?," i. e., British Honduras ?).—RIDGWAY, Man. N. Am. Birds, 1887, 542.

Mimus gracilis SCLATER and SALVIN, Ibis, 1859, 7, part (Belize, British Honduras).—SCLATER, Proc. Zool. Soc. Lond., 1859, 343, part (monogr.; "Honduras," i. e., British Honduras ?).—MOORE, Proc. Zool. Soc. Lond., 1859, 55 (Belize).—BAIRD, Review Am. Birds, 1864, 54, part (in synonymy).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 199 (Merida, Yucatan).—NEHRKORN, Journ. für Orn., 1881, 66 (Yucatan; descr. eggs).

[*Mimus*] *gracilis* SHARPE, Hand-list, iv, 1903, 104.

[*Mimus gilvus*] *γ. gracilis* RIDGWAY, Proc. U. S. Nat. Mus., v, June 12, 1882, 11, 12, part (crit.; excl. synonymy part; Yucatan).

Mimus gilvus gracilis RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 562 (Cozumel I.)

[*Mimus*] *gilvus* (not *Turdus gilvus* Vieillot) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part.

Mimus gilvus SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 36 (Merida, Yucatan; Belize, and Lighthouse and Glovers reefs, British Honduras).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 351, part (n. Yucatan).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 439 (Yucatan).—SALVIN, Ibis, 1888, 244 (Meco, Holbox, Mujeres, and Cozumel islands; crit.).

Mimus gilvus leucophæus RIDGWAY, Proc. U. S. Nat. Mus., x, sig. 32, Aug. 6, 1888, 506 (Cozumel I., Yucatan; coll. U. S. Nat. Mus.).

[*Mimus*] *leucophæus* SHARPE, Hand-list, iv, 1903, 104.

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[a] Twenty-four specimens.

[b] Fourteen specimens.

Specimens from different localities compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Yucatan	110.4	127.5	19.1	32.8	21.3
Seven adult males from Cozumel Island	104.2	123.9	19.1	32.8	21.5
Six adult males from Mujeres Island	109.1	126.7	18.7	33	21.4
One adult male from Tabasco (Montecristo)	109.5	129.5	20.5	33.5	21.5
FEMALES.					
One adult female from British Honduras (Manatee)	105.5	123.5	18.5	31	19.5
Seven adult females from Yucatan	97.9	113.6	18.4	31.6	20.3
Three adult females from Cozumel Island	98.5	113.5	18.5	31.7	20.2
Three adult females from Mujeres Island	100	119	18	30.8	19.8

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MIMUS GILVUS GUATEMALENSIS Ridgway.

GUATEMALA MOCKINGBIRD.

Similar to *M. g. columbianus*, but base of outer webs of primaries (concealed, or mostly so, by primary coverts) white; gray of upper parts slightly browner; wings and tail decidedly blacker, the middle wing-coverts more broadly and abruptly tipped with white,[a] instead of pale gray; white of under parts much less pure, the chest pale buffy gray, the flanks and under tail-coverts more strongly buffy. Young with general color of upper parts paler, middle and greater wing-coverts broadly and abruptly tipped with pure white (instead of narrowly tipped with pale buff), tertials broadly margined with white (these markings in *M. g. columbianus* pale brownish buff or wood brown, passing into white terminally), and markings on under parts confined to chest and sides (wanting, or nearly so, on flanks) roundish, instead of longitudinal, and somewhat paler grayish brown.

Adult male.—Length (skins), 245–255 (249); wing, 108.5–115.5 (111.9); tail, 111.5–135.5 (124.4); exposed culmen, 17.5–19.5 (18.4); tarsus, 31.5–34.5 (32.7); middle toe, 21–22.5 (21.9).[b]

Adult female.—Length (skins), 232; wing, 102.5; tail, 108; exposed culmen, 17; tarsus, 31; middle toe, 19.5.[c]

Highlands of Guatemala (San Gerónimo; Salamá; plains of Zacapa; upper Montagua Valley; Dueñas; Jutiapa; Capetillo-Suchitépequez; Nehaj-Quitché) and Chiapas (San Cristobal; Valley of Comitan; Ocuilapa; Ocozucuantla; Jiquipilas); Tabasco (Frontera); southern Vera Cruz (Coatzacoalcos)?[d]

[a] These white tips, conspicuous in fresh plumage, are obsolete, through abrasion, in worn "midsummer" plumage.

[b] Four specimens, from Chiapas and Guatemala.

[c] One specimen, from Coatzacoalcos, Vera Cruz.

[d] I am somewhat doubtful as to the correctness of referring specimens from Frontera and Coatzacoalcos to the present form. All the specimens from the latter locality examined (six in number) are in much more worn plumage than those from Chiapas and Guatemala, therefore the two series are not satisfactorily comparable. Making due allowance for this difference in their condition, the two series agree closely, the Coatzacoalcos specimens being slightly smaller, though this difference may be partly accounted for by wearing away of extreme tips to the primaries and rectrices. Should the correctness of referring the Coatzacoalcos and Frontera specimens to *M. g. guatemalensis* be established, the northern part of the range of this form would constitute a "wedge" separating the range of *M. g. lawrencei* (in Oaxaca) from that of *M. g. gracilis* (in Campeche and Yucatan).

Average measurements of males of the two series are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Chiapas (3) and Guatemala (1).....	111.9	124.4	18.4	32.7	21.9
Three adult males from Coatzacoalcos, Vera Cruz.....	108.2	117.5	17.8	31.7	19.8

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Mimus gracilis (not of Cabanis) SCLATER and SALVIN, Ibis, 1859, 7, part (Salamá, Vera Paz, Guatemala; crit.; food).—CABANIS, Journ. für Orn., 1860, 410 ("Costa Rica," i. e. Guatemala; see Frantzius, Journ. für Orn., 1869, 290).—SCLATER, Proc. Zool. Soc. Lond., 1859, 343, part (Guatemala); Cat. Am. Birds, 1862, 9 (Salamá, Guatemala).—OWEN, Ibis, 1861, 60, pl. 2, fig. 2 (San Gerónimo, Guatemala; habits; colored fig. of egg).—BAIRD, Review Am. Birds, 1864, 54, part (San Gerónimo).—SALVIN, Ibis, 1866, 202 (highlands of Guatemala).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 91 ("Costa Rica," i. e. Guatemala).—NELSON, Auk, xv, 1898, 159 (Chiapas to Pacific coast).

(?) *Mimus gracilis* SCLATER, Proc. Zool. Soc. Lond., 1859, 343, part (Honduras).—TAYLOR, Ibis, 1860, 110 (Comayagua, Honduras; habits).—BAIRD, Review Am. Birds, 1864, 54, part (Honduras).

[*Mimus*] *gilvus* (not *Turdus gilvus* Vieillot) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part (Guatemala).

Mimus gilvus SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 36, part (Salamá, San Gerónimo, plain of Zacapa, upper Montagua Valley, Dueñas, and Jutiapa, Guatemala; Comayagua, Honduras?).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 350, part (Guatemala; Comayagua, Honduras?).

[*Mimus*] *gilvus* SHARPE, Hand-list, iv, 1903, 104, part.

Mimus gilvus guatemalensis RIDGWAY, Smithsonian Misc. Coll. (quarterly issue), xlvii, Aug. 6, 1904, 113 (Capetillo, Department of Suchitépequez, Guatemala; coll. U. S. Nat. Mus.).

MIMUS GILVUS LAWRENCEI Ridgway.

TEHUANTEPEC MOCKINGBIRD.

Similar to *M. g. guatemalensis*, but gray of upper parts much browner (drab-gray instead of smoke gray), and wings and tail less black (more slaty), with much broader gray edgings.

Adult male.—Length (skins), 240–255 (250); wing, 113.5–124 (116.6); tail, 117.5–126.5 (121.9); exposed culmen, 17.5–18.5 (18); tarsus, 32.5–34.5 (33.4); middle toe, 21.5–22.5 (22).[a]

Adult female.—Length (skins), 220–237 (231); wing, 103–109.5 (107.3); tail, 104–117.5 (111.3); exposed culmen, 16.5–18.5 (17.6); tarsus, 31.5–32.5 (33.3); middle toe, 19–22.5 (21).[b]

State of Oaxaca, southwestern Mexico (Tehuantepec City; San Matéo del Mar).

Mimus gracilis (not of Cabanis) LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 12 (Tehauntepec City, Oaxaca).

Mimus gilvus (not *Turdus gilvus* Vieillot) SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1879, 36, part (Tehuantepec).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 350, part (Tehuantepec).

[*Mimus*] *gilvus* SHARPE, Hand-list, iv, 1903, 104, part.

Mimus gilvus lawrencei RIDGWAY, Proc. U. S. Nat. Mus., v, June 12, 1882, 10 (Tehauntepec City, Oaxaca, s. w. Mexico; coll. U. S. Nat. Mus.).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 427 (reprint of original descr.).

[*Mimus gilvus*] *δ. lawrencei* RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 11, 12.

M[*imus*] *lawrencei* RIDGWAY, Man. N. Am. Birds, 1887, 542.

[*Mimus*] *lawrencei* SHARPE, Hand-list, iv, 1903, 104.

Mimus gracilis lawrencei NELSON, Auk, xv, Apr., 1898, 159.

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[a] Four specimens. [b] Five specimens.

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MIMUS MAGNIROSTRIS Cory.

LARGE-BILLED MOCKINGBIRD.

Similar in coloration to *M. gilvus columbianus*, but gray of upper parts darker, wings darker (blackish slate or nearly slate-black), with middle and greater coverts narrowly and abruptly tipped with white, and size very much greater.

Adult male.—Length (skins), 272–294 (283); wing, 118.5–126.5 (124.1); tail, 133.5–139.5 (137.5); exposed culmen, 26.5–28 (27.2); tarsus, 36.5–37.5 (37); middle toe, 24–26 (24.7).[a]

Adult female.—Length (skins), 275–277 (276); wing 116–126 (121); tail, 125.5–139 (132.2); exposed culmen, 26–27.5 (26.7); tarsus, 34.5–37 (35.7); middle toe, 23.5–24.5 (24).[b]

Island of St. Andrews, Caribbean Sea.

Mimus magnirostris Cory, Descr. Six New Species Birds from Old Providence and St. Andrews, May 27, 1887, 2; Auk, iv, July, 1887, 178, 181 (St. Andrews I., Caribbean Sea; coll. C. B. Cory).—Stone, Proc. Ac. Nat. Sci. Phila., 1899, 301, in text (St. Andrews I.).

[*Mimus*] *magnirostris* Sharpe, Hand-list, iv, 1903, 103.

MIMUS GUNDLACHII GUNDLACHII Cabanis.

GUNDLACH'S MOCKINGBIRD.

Adults (sexes alike).—Above brownish gray (between hair brown and drab-gray), the feathers of pileum and back darker mesially or centrally, producing distinct streaks on the former, broader and less distinct, mostly concealed, wedge-shaped spots on the latter; tail slightly darker brownish gray, with brownish black or blackish brown shafts, the inner webs of rectrices (except middle pair) tipped with white (this gradually diminishing in extent from exterior rectrix), the outer web also, though much more narrowly and less abruptly, white at tip; wings blackish slate or dusky, the lesser coverts broadly margined with brownish gray, the middle and greater coverts tipped with white, or very pale gray, forming two fairly distinct bands across the wing, the greater coverts and remiges edged with light brownish gray; an indistinct superciliary stripe of pale gray; eyelids white; lores dusky grayish; auricular region plain brownish gray, the central and lower anterior portion, together with suborbital region, streaked and flecked with whitish; malar region dull white or grayish white indistinctly barred or flecked with dusky; chin and throat white, margined along each side by a series of dusky streaks forming a more or less distinct submalar line; chest and sides of breast pale brownish gray, the feathers tipped with white (except in worn plumage); sides and flanks very pale grayish buffy, broadly streaked with dusky; breast, abdomen, anal region, and under tail-coverts white, the last more or less tinged with grayish buffy and

[a] Four specimens. [b] Two specimens.

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streaked with dusky or else with a central, mostly concealed, wedge-shaped area of pale buffy grayish; bill black, the mandible brownish basally; legs and feet dusky brown or blackish (in dried skins).

Adult male.—Length (skins), 258–278 (267); wing, 115–125.5 (120.8); tail, 125–131.5 (128.2); exposed culmen, 20.5–24 (22.3); tarsus, 37.5–41 (38.9); middle toe, 22.5–25.5 (23.8).[a]

Adult female.—Length (skins), 240–264 (255); wing, 112.5–116.5 (114.1); tail, 118.5–131.5 (123.9); exposed culmen, 21–22 (21.4); tarsus, 37.5–39.5 (38); middle toe, 22–23 (22.7).[b]

Cays along northern coast of Cuba (Cayo Santa Maria, etc.) and more southern Bahama islands (Watlings Island; Rum Cay; probably also Maraguna,[c] Great Inagua,[c] and Caicos islands).[c]

Mimus gundlachii CABANIS, Journ. für Orn., 1855, 470 (Cayo Santa Maria, n. coast Cuba[d]).—SCLATER, Proc. Zool. Soc. Lond., 1859, 342 (monogr.).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307 (Cuba).—GUNDLACH, Journ. für Orn., 1872, 409 (crit.); Orn. Cubana, 1876, 60.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 344, footnote.

[*Mimus*] *gundlachii* GRAY, Hand-list, i, 1869, 262, no. 3834.

[*Mimus*] *gundlachi* GUNDLACH, Journ. für Orn., 1861, 324 (Cuba); Repert. Fisico-Nat. Cuba, i, 1865, 230.—SHARPE, Hand-list, iv, 1903, 103, part.

M[*imus*] *gundlachii* RIDGWAY, Man. N. Am. Birds, 1887, 542, part.

Mimus gundlachi BAIRD, Review Am. Birds, 1864, 59 (Cuba).—GUNDLACH, Journ. für Orn., 1871, 293 (Cuba); Orn. Cubana, 1893, 53.—CORY, Auk, iii, 1886, 21, part (Cuba); ix, 1892, 49 (Watlings I., Bahamas); Birds West Ind., 1889, 35, part (Cuba); Cat. West Ind. Birds, 1892, 19, 121, part (Cuba; Watlings I.; Rum Cay).—RIDGWAY, Auk, viii, 1891, 337 (Watlings I.; Rum Cay).

? *Mimus gundlachi* CORY, Auk, viii, 1891, 297 (Caicos Islands); ix, 1892, 48 (Maraguana I., Bahamas); Cat. West Ind. Birds, 1892, 19, 121, part (Maraguana; Caicos Islands; Great Inagua).

[*Mimus*] *gundlachi* CORY, List. Birds West Ind., 1885, 6 (Cuba).

[a] Nine specimens (five from Rum Cay, four from Watlings Island, Bahamas).

[b] Four specimens (two each from Rum Cay and Watlings Island).

Specimens from Watlings Island and Rum Cay average, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Watlings Island	120.9	127.7	21.9	38.2	23.9
Five adult males from Rum Cay	120.8	128.8	22.7	39.3	23.8
FEMALES.					
Two adult females from Watlings Island	115	121.5	21	37.2	22.2
Two adult females from Rum Cay	113.2	126.2	21.7	38.7	23.2

[c] No specimens from these islands seen by me.

[d] According to Gundlach, Orn. Cubana, 1876, 60, 61. The type is apparently in the collection of the Gundlach Museum, Havana.

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MIMUS GUNDLACHII BAHAMENSIS (Bryant).

BAHAMA MOCKINGBIRD.

Similar to *M. g. gundlachii*, but color of upper parts browner (the back broccoli brown or between hair brown and broccoli brown, instead of brownish drab-gray); slightly smaller.

Adult male.—Length (skins), 232–275 (265); wing, 103.5–125 (116.8); tail, 107–136 (125.5); exposed culmen, 20.5–23 (21.3); tarsus, 37.5–40.5 (38.4); middle toe, 22.5–25 (23.7).[a]

Adult female.—Length (skins), 238–267 (255); wing, 107.5–118 (116.8); tail, 111.5–127 (120.7); exposed culmen, 19–22.5 (20.8); tarsus, 35.5–39 (37.2); middle toe, 22–24 (23).[b]

Northern and middle Bahama Islands (Berry Islands, Biminis, Eleuthera, New Providence, Andros, Cat Island, Concepcion, and Green Cay; perhaps also Exuma Keys).[c]

Mimus gundlachii (not of Cabanis) ALBRECHT, Journ. für Orn., 1861, 54 (Bahamas).

M[imus] gundlqchii RIDGWAY, Man. N. Am. Birds, 1887, 542, part.

Mimus gundlachi CORY, Auk, iii, 1886, 21, part; viii, 1891, 295 (Berry Islands), 298 (Inagua), 351 (Eleuthera; Inagua); ix, 1892, 49 (Inagua); Birds West Ind., 1889, 35, part; Cat. West Ind. Birds, 1892, 19, 121, part (Berry Islands, Eleuthera, New Providence, Andros, San Salvador, Exuma Keys, Concepcion, and Green Cay, Bahamas).—NORTHROP, Auk, viii, 1891, 67 (Andros I.).—ALLEN, Auk, viii, 1891, 67 (Andros I.; crit.).—RIDGWAY, Auk, viii, 1891, 335 (New Providence), 336 (Eleuthera; Cat I.), 338 (Green Cay), 339 (Concepcion).—BANGS, Auk, xvii, 1900, 289 (New Providence; Highborn Key).—BONHOTE, Ibis, 1903, 277 (New Providence, Andros, Hog Cay, and Little Abaco islands; habits; crit.).—ALLEN (G. M.), Auk, xxii, 1905, 131 (Stranger Cay, Moraine Cay, and Great Sale Cay, n. Bahamas).

[a] Twenty-three specimens.

[b] Ten specimens.

Specimens from different islands compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Eleuthera	119.9	130.7	20.9	37.9	23.7
Six adult males from Andros	116.9	123.6	21.2	38.2	23.8
One adult male from New Providence	103.5	107	20.5	37.5	23.5
Three adult males from Green Cay	114.3	120.7	21.2	38.8	24
One adult from Berry Islands	120.5	129	21	39.5	24.5
One adult male from Highborn Cay	115.5	125.5	23	39.5	23.5
Two adult males from Concepcion Islands	123.5	133.5	22	39.2	24.5
Four adult males from Cat Island	116.7	125.4	21.6	38	22.8
FEMALES.					
Three adult females from Eleuthera	114.2	122.3	21.3	38	22.8
One adult female from Andros	107.5	111.5	19	34.5	22
One adult female from New Providence	111	119.5	20.5	37.5	22.5
One adult female from Berry Islands	116	119.	20	38.5	23.5
Three adult females from Concepcion Islands	116.5	124.7	21.2	37.3	23.5
One adult female from Cat Island	109.5	116	21	36	23.5

[c] No specimen from Exuma Keys seen by me.

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[*Mimus*] *gundlachi* SHARPE, Hand-list, iv, 1903, 103, part.

Mimus bahamensis BRYANT (H.), Proc. Bost. Soc. N. H., vii, 1859, 114 (Bahama Key, Bahamas; habits; song; crit.); xi, 1866, 68 (Inagua; crit.).—BAIRD, Review Am. Birds, 1864, 52 (Bahama Key).—CORY, Birds Bahama I., 1880, 48.

[*Mimus*] *bahamensis* GRAY, Hand-list, i, 1869, 262, no. 3836.—CORY, List Birds West Ind., 1885, 6.

MIMUS GUNDLACHII HILLII (March).

HILL'S MOCKINGBIRD.

Very similar to *M. g. bahamensis*, but upper parts more distinctly streaked (especially on back), chest very faintly, if at all, tinged with gray, and white tips to rectrices averaging larger; size averaging decidedly larger (larger even than *M. g. gundlachii*).

Adult male.—Length (skins), 266–279 (275); wing, 125–127.5 (125.7); tail, 130–134.5 (133.4); exposed culmen, 22–23.5 (22.9); tarsus, 38–40.5 (39.5); middle toe, 24–26.5 (24.6).[a]

Adult female.—Length (skins), 263–270 (266); wing, 118–122 (120); tail, 121.5–129.5 (125.8); exposed culmen, 22–23 (22.2); tarsus, 36–38.5 (37.5); middle toe, 22.5–23 (22.7).[b]

Island of Jamaica, Greater Antilles.

Mimus hillii MARCH, Proc. Ac. Nat. Sci. Phila., 1863, 291 (Jamaica; based on *M. orpheus* Hill, not *Turdus orpheus* Linnæus).—BAIRD, Review Am. Birds, 1864, 52 (Port Henderson and Great Salt Pond, Jamaica).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 343.—CORY, Auk, iii, 1886, 22; Birds West Ind., 1889, 36; Cat. West Ind. Birds, 1892, 157 (crit.).—FIELD, Auk, xi, 1894, 127 (habits; descr. eggs).

[*Mimus*] *hillii* GRAY, Hand-list, i, 1869, 262, no. 3830.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.—CORY, List Birds West Ind., 1885, 6.

M[*imus*] *hillii* NEWTON (A. and E.), Handb. Jamaica, 1881, 105.

Mimus hilli CORY, Cat. West Ind. Birds, 1892, 19.

[*Mimus*] *hilli* SHARPE, Hand-list, iv, 1903, 103.

Mimus gundlachi hillii CORY, Cat. West Ind. Birds, 1892, 121, 130 (Jamaica).

Mimus orpheus (not *Turdus orpheus* Linnæus) HILL, Proc. Ac. Nat. Sci. Phila., 1863, 304.

M[*imus*] *gundlachii* (not of Cabanis) RIDGWAY, Man. N. Am. Birds, 1887, 542, part (Jamaica).

Genus NESOMIMUS Ridgway.

Nesomimus RIDGWAY, Proc. U. S. Nat. Mus., xii, no. 767, Feb. 5, 1890, 102 footnote. (Type, *Orpheus melanotis* Gould.)

Medium-sized to large Mimidæ (length 190–270 mm.) with long slender tarsus (decidedly more than one-third longer than middle toe without claw), tail not longer than wing (usually shorter), nostril narrow, horizontally linear or elliptical, and plumage of upper parts variegated with brownish gray or grayish brown, dusky, and whitish.

[a] Four specimens. [b] Three specimens.

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Bill variable as to relative length, sometimes equal to or slightly longer than head (exposed culmen shorter than middle toe without claw and longer than toe with claw), sometimes much shorter, but always slender and appreciably decurved terminally, and with breadth at frontal antiæ about equal to its height at same point; culmen nearly straight basally, gradually becoming more decurved toward tip; gonys nearly straight (usually slightly concave in middle portion, its base decidedly anterior to nostril; maxillary tomium gently concave, distinctly notched subterminally. Nostril horizontal, narrow (narrowly oval, elliptical, or linear), overhung by narrow membrane, posteriorly in contact with feathering of frontal antiæ. Rictal bristles obvious, but few and weak. Wing rather long and pointed, the longest primaries exceeding longest secondaries by length of middle toe (without claw) or more, the eighth and seventh, or eighth, seventh, and sixth, primaries longest, the ninth very much longer than secondaries, the tenth (outermost) not more (usually less) than half as long as ninth. Tail not longer than wing (usually decidedly shorter), strongly rounded (the graduation about equal to length of exposed culmen or to length of middle toe without claw). Tarsus long and slender (slightly less to more than one-third as long as wing, always decidedly longer than exposed culmen, sometimes twice as long), the acrotarsium distinctly scutellate; middle toe (without claw) decidedly less than two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly beyond; hallux shorter than inner toe but much stouter; claws normal in size and curvature; basal phalanx of middle toe adherent to that of outer toe for about half its length, to that of inner toe for basal portion only.

Coloration.—Upper parts variegated with brownish gray (or grayish brown), dusky, and whitish; beneath dull whitish, streaked on flanks with dusky, the chest or sides of breast sometimes spotted with dusky. Young with under parts always spotted on chest, etc.

Nidification.—Nest and eggs essentially like those of the genus *Mimus*.

Range.—Galapagos Archipelago. (Eleven species, or forms.)

KEY TO THE SPECIES OF NESOMIMUS.

a. Upper parts without streaks, but (in unworn plumage) the pileum and back more or less transversely marked with white; auricular region white; a large patch of dusky on each side of chest; iris dark brown. (Gardner Island, near Charles, and Champion Island, Galapagos Archipelago.)...**Nesomimus trifasciatus** (p. 247)

aa. Upper parts streaked, and without transverse markings of white; auricular region dusky; no dusky patch on sides of chest; iris yellow.

b. Breast crossed by an interrupted band of dusky spots.

c. Bill much larger (exposed culmen 31.5–33), more curved; spotting on breast more distinct. (Hood Island, Galapagos Archipelago.)

Nesomimus macdonaldi (p. 248)

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cc. Bill much smaller (exposed culmen 22–24), less curved; spotting on breast less distinct (obsolete in worn plumage). (Chatham Island, Galapagos Archipelago.) ..... **Nesomimus adamsi** (p. 249)

bb. Breast entirely unspotted.

c. Bill larger (exposed culmen 19.7–28, usually much more than 20).

d. Rump distinctly rufescent. (Bindloe Island, Galapagos Archipelago. **Nesomimus bindloei** (p. 251)

dd. Rump not distinctly rufescent.

e. Darker, dusky prevailing both on pileum and back; pale edgings on greater wing-coverts and tertials narrower or darker and less buffy.

f. Bill longer (exposed culmen averaging 25.7 in male, 25.2 in female); flanks darker; sides of neck less extensively white. (Abingdon Island, Galapagos Archipelago)..... **Nesomimus personatus** (p. 252)

ff. Bill shorter (exposed culmen averaging 22.6 in male, 21.9 in female); flanks paler; sides of neck more extensively white.

g. Darker above; male averaging wing 115.7, tail 111.2, exposed culmen 23.3; female averaging wing 104.7, tail 102, exposed culmen 22.1. (James and Jervis islands—formerly Charles Island?—Galapagos Archipelago.)..... **Nesomimus melanotis** (p. 253)

gg. Paler above; male averaging wing 110.9, tail 107.2, exposed culmen 22.1; female averaging wing 102.5, tail 98, exposed culmen 19.7. (Indefatigable and Seymour islands, Galapagos Archipelago.) **Nesomimus dierythrus** (p. 254)

ee. Paler above, dusky not predominating on pileum or back; pale edgings to greater wing-coverts and tertials broader or else paler and more buffy.

f. Whitish tips to rectrices much broader. (Culpepper Island, Galapagos Archipelago.) ..... **Nesomimus hulli** (p. 254)

ff. Whitish tips to rectrices much narrower.

g. Wing longer (averaging 117.5 in male, 108 in female); whitish tips to rectrices smaller, divided mesially by a brown or dusky shaft-streak. (Tower Island, Galapagos Archipelago.) ... **Nesomimus bauri** (p. 255)

gg. Wing shorter (108–111 in male, 99–104 in female); whitish tips to rectrices larger, not divided by a brown or dusky shaft-streak. (Barrington and Wenman islands, Galapagos Archipelago.) **Nesomimus barringtoni** (p. 256)

cc. Bill smaller (exposed culmen 19–20). (Albemarle and Narborough islands, Galapagos Archipelago) ..... **Nesominus parvulus** (p. 256)

I regret my inability to present a more satisfactory "key" to the forms of this difficult group, but the material at my command is far too meager for successful treatment of the subject. In the construction of the "key," in framing the diagnoses, and in deciding which are tenable forms I have been obliged to depend largely on the papers of Messrs. Rothschild and Hartert and Snodgrass and Heller, respectively, and use my best judgment in deciding questions as to which the authorities cited are at variance. In such cases my conclusion has favored the views of Messrs. Snodgrass and Heller as being later and based on additional material.

Messrs. Rothschild and Hartert consider all the forms characterized above, except *N. trifasciatus*, *N. macdonaldi*, and *N. adamsi*, as subspecies of *N. melanotis*, while Snodgrass and Heller recognize *N.*

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personatus as a distinct species, to which *N. bindloei*, *N. bauri*, and *N. hulli* are referred as subspecies. Until these forms are much better understood than they are at present, however, it seems to me best to treat them all as specifically distinct, though most likely their segregation into a smaller number of specific types may eventually be found to more correctly express their relationships.

NESOMIMUS TRIFASCIATUS (Gould).

THREE-BANDED MOCKINGBIRD.

Adults (*sexes alike*).—Above dark sooty brown or clove brown, becoming much paler (light hair brown or broccoli brown) on rump and upper tail-coverts; feathers of pileum narrowly tipped with dull white or grayish white (except in worn plumage), the scapulars and interscapulars (in fresh plumage) more narrowly tipped with the same; upper tail-coverts broadly margined terminally with pale grayish brown or dull brownish white, this preceded by a spot of dusky brown, abruptly defined against the paler tip but anteriorly fading gradually into the light grayish brown of the general color;[a] lesser wing-coverts margined with pale grayish, the last two rows tipped, rather broadly, with white, forming two distinct but narrow bands; middle and greater coverts more broadly tipped with white, the latter edged with pale grayish brown; secondaries edged with pale grayish brown, the tertials rather broadly tipped with white; primaries edged with pale gray, these edgings becoming whitish on middle portion of the sinuated quills; remiges indistinctly tipped with pale grayish brown or dull brownish white, these tips narrower on middle rectrices, broader on lateral rectrices; auricular region, supra-auricular stripe, malar region, and under parts soiled white; a narrow supraloral streak of dull white (sometimes obsolete or wanting); lores blackish, the suborbital and malar regions (especially anterior portion) more or less flecked with dusky; a large patch of nearly uniform sooty grayish brown or dusky on each side of chest, the median portion of chest more or less spotted, transversely, with the same; sides and flanks broadly streaked with dusky, the under tail-coverts sometimes with narrow dusky streaks; under wing-coverts dusky centrally, broadly margined with white; bill blackish, the mandibular rami more or less horn colored; iris dark brown; legs and feet dusky horn color or blackish.

Adult male.—Length (skins), 240–245(242.8); wing, 121–126(124.4); tail, 110–120 (116); exposed culmen, 27; tarsus, 40–41 (40.2): middle toe, 23–24 (23.3).[b]

[a] Sometimes these dusky spaces form rather definite subterminal bars.

[b] Five specimens from Gardner Island, near Charles.

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Adult female.—Length (skins), 245; wing, 121–125 (123); tail,114–117 (115.5); exposed culmen, 26.5–27 (26.7); tarsus, 38–38.5 (38.2); middle toe, 22.[a]

Galapagos Archipelago (Gardner Island, near Charles; Champion Island).[b]

Orpheus trifasciatus GOULD, Proc. Zool. Soc. Lond., 1837, 27 (Galapagos Islands; coll. C. Darwin, now in coll. Brit. Mus.).

Mimus trifasciatus GRAY, Zool. Voy. "Beagle," iii, 1841, 62, pl. 16 (Charles Island).—SCLATER, Proc. Zool. Soc. Lond., 1859, 345 (monogr.).—SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 471.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 346.

M[imus] trifasciatus SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 127 (crit.).

[*Mimus*] *trifasciatus* BONAPARTE, Consp. Av., i, 1850, 277.—GRAY, Hand-list, i, 1869, 262, no. 3827.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.

Nesomimus trifasciatus RIDGWAY, Proc. U. S. Nat. Mus., xix, 1896, 483 (monogr.).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 128, 143 (crit.; Gardner I., near Charles).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 358 (Gardner, near Charles; "extinct on Charles," crit.).

N[esomimus] trifasciatus ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200 (Gardner I., near Charles).

[*Nesomimus*] *trifasciatus* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416 (Gardner I. near Charles).—SHARPE, Hand-list, iv, 1903, 104.

NESOMINUS MACDONALDI Ridgway.

HOOD ISLAND MOCKINGBIRD.

Adults (sexes alike).—General color of upper parts light brownish gray, more buffy (light broccoli brownish) on rump, the feathers of pileum and rump, scapulars, and interscapulars dark sooty slate or dull blackish centrally, these dark centers very large on dorsal region, where the feathers are merely margined with gray; upper tail-coverts darker brownish gray, margined with paler; tail brownish black or dusky, the rectrices narrowly edged with grayish, the inner webs of outermost rectrices dull whitish on inner terminal portion, producing an ill-defined spot;[c] wings dull blackish, the middle and greater coverts and tertials broadly margined at tips with white, the greater coverts and tertials edged with pale buffy gray, the primaries more narrowly edged with gray, becoming white in middle portion; lesser coverts light gray, blackish centrally, this mostly concealed, except on last row, which, like the middle and greater coverts are broadly margined or tipped with white; an ill-defined but rather distinct superciliary stripe of very pale gray or grayish white; lŏres and suborbital region dull blackish or dusky; auricular region partly pale grayish,

[a] Two specimens from Gardner Island, near Charles.

[b] A male and female from Champion Island agree with those from Charles Island in coloration but are slightly smaller, their measurements being as follows:

Male.—Wing, 121; tail, 112; exposed culmen, 26.5; tarsus, 41; middle toe, 22.5.

Female.—Wing, 117; tail, 111; exposed culmen, 27; tarsus, 39; middle toe, 21.

[c] This marking less developed on the second and disappearing on third or fourth rectrix.

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narrowly streaked with whitish, partly blackish, this mostly on upper anterior and lower portions; malar region dull white, usually more or less flecked with dusky; a more or less distinct narrow submalar streak of dusky; under parts dull white, interrupted by a broad band of pale brownish gray across upper chest, the feathers composing this band with small concealed spots of dusky; breast light brownish gray, the feathers tipped with dull white, and with large, partially concealed, central spots of dusky;[a] sides and flanks with rather broad elliptical or guttate streaks of dusky; bill black, the basal portion of mandible horn color; iris yellowish; legs and feet dusky horn color or blackish brown.

Adult male.—Length (skins), 252–269 (261);[b] wing, 113–125 (122);[c] tail, 103–115 (108.1);[c] exposed culmen, 31.5–33 (32);[d] tarsus, 38–38.5 (38.2);[d] middle toe, 23–25 (23.6).[d]

Adult female.—Length (skin), 254; wing, 114.5; tail, 102; exposed culmen, 31.5; tarsus, 38; middle toe, 22.5.[e]

Hood Island and Gardner Island, near Hood, Galapagos Archipelago.

Nesomimus macdonaldi RIDGWAY, Proc. U. S. Nat. Mus., xii, no. 767, Feb. 5, 1890, 103, fig. 1 (Hood I., Galapagos Archipelago; coll. U. S. Nat. Mus.); xix, 1897, 484, fig. 1; pl. 56, fig. 1 (monogr.).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 143 (Hood I.; crit.); ix, 1902, 381 (Gardner I., near Hood).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 359 (Hood I. and Gardner, near Hood; crit.; descr.; measurements).

N[esomimus] macdonaldi ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200 (Hood I. and Gardner I., near Hood).

[*Nesomimus*] *macdonaldi* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416 (Hood I. and Gardner I., near Hood).—SHARPE, Hand-list, iv, 1903, 105.

NESOMIMUS ADAMSI Ridgway.

CHATHAM ISLAND MOCKINGBIRD.

Similar in coloration to *N. macdonaldi*, but bill very much smaller, more slender, and less curved.

Adults.—Above brownish gray changing to light brown on the rump; top of head marked with distinct mesial streaks of black (proportionally narrower than those of *N. macdonaldi*) and back with broad mesial spots of dusky (much less intense than those of *N. macdonaldi*); rump and upper tail-coverts (the latter grayish, like back, etc.) with streaks indistinct and mostly concealed; lesser wing-coverts light brownish gray with dusky central spots (mostly concealed); rest of wings dusky, the middle coverts with broad terminal margins of grayish white, slightly tinged with buff; greater coverts broadly

[a] This spotted pectoral band is much broader laterally than medially, where sometimes, apparently, interrupted.

[b] Four specimens.

[c] Five specimens.

[d] Six specimens.

[e] One specimen.

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tipped and edged with the same, the edgings more buffy, the tips purer white; secondaries broadly edged with light buffy brown passing into buffy white on terminal margins; primaries, primary coverts, and alula very narrowly edged with grayish white and with broader terminal margins of purer white; tail nearly black, becoming brownish slaty basally, the rectrices indistinctly but rather broadly edged with brownish gray; outermost rectrix edged with white, and with a large white space (about 21.6 long) terminating the inner web; the third with the white space about 20.3 long, the fourth with it about 15.2, and so on, decreasing in size and distinctness of definition to the fifth, where it forms a narrow mark along the edge of the inner web near tip; a rather indistinct superciliary stripe of dull grayish white; lores, suborbital region, and ear-coverts blackish, the last streaked with light brownish gray; under parts, including malar region, buffy white; along each side of throat a narrow streak of dusky; chest faintly shaded with grayish, forming an indistinct broad band, within which many of the feathers have a small dark brownish gray cordate central spot; sides of breast similarly colored, forming two lateral patches nearly meeting on the median line, but the dark spots larger and more distinct; sides and flanks with broad longitudinal streaks of dusky, most intense on flanks; bill brownish black, becoming pale brownish on basal third of mandible; legs and feet black; "iris dull yellow."[a]

Young.—Forehead and crown dark brownish gray, uniform anteriorly but posteriorly streaked with pale brownish gray, the feathers of the hinder crown and occiput being this color, with broad, dusky grayish mesial streaks; nape and hindneck very pale brownish gray, indistinctly mottled with darker tips to the feathers; back and scapulars buffy brown with large central longitudinal spots of dusky; lower back and rump buffy cinnamon, broadly but indistinctly streaked with dusky toward upper tail-coverts, the latter nearly uniform grayish tinged with cinnamon on edges; wings dusky (nearly black on remiges); lesser coverts broadly margined with buffy brownish gray; middle coverts broadly tipped with pale buff; greater coverts broadly tipped with pale buff and broadly edged with deep buff; secondaries broadly margined with cinnamon-buff, paler at tips; primaries, primary coverts, and alulæ edged with dull whitish. Tail as in adult; under parts dull white, the chest marked with distinct blackish spots (larger and more round centrally, smaller and more angular or sagittate laterally); sides and flanks broadly streaked with dusky grayish; an indistinct superciliary stripe of grayish white; lores and suborbital region dusky mixed with grayish; ear-coverts dusky grayish, paler centrally, the feathers with dull whitish shaft-streaks.

[a] Charles F. Adams, manuscript, on label.

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Adult male.—Length (skins), 215–225 (220); wing, 109–113 (111.7); tail, 95–104 (100.7); exposed culmen, 24; tarsus, 37–39 (37.8); middle toe, 21.5–22 (21.7).[a]

Adult female.—Length (skins), 215–220 (217.3); wing, 107–114 (109.7); tail, 92–105 (97.7); exposed culmen, 22–24 (23.2); tarsus, 37–38 (37.5); middle toe, 21–22 (21.5)[a]

Chatham Island, Galapagos Archipelago.

Mimus melanotis GOULD, Zool. Voy. "Beagle," iii, 1841, 62, part (Chatham I).—SCLATER, Proc. Zool. Soc. Lond., 1859, 345, part (Chatham I; monogr.).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 124, part (Chatham I.).

Nesomimus melanotis RIDGWAY, Proc. U. S. Nat. Mus., xii, 1889, 102, part (Chatham I.).

Nesomimus adamsi RIDGWAY, Proc. U. S. Nat. Mus., xvii, (Nov. 15, 1894)[b], 358 (Chatham I., Galapagos Archipelago; coll. Dr. G. Baur)[c], xix, 1897, 485, pl. 56, fig. 2 (monogr.).—ROTHSCHILD, Bull. Brit. Orn. Club, xii, 1902, 47 (descr. nest and eggs).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 144 (crit.); ix, 1902, 381 (habits; descr. nest and eggs), 416.—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 360 (descriptions, etc.).

N[esomimus] adamsi ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200 (Chatham I.).

[Nesomimus] adamsi ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416 (Chatham I.).—SHARPE, Hand-list, iv, 1903, 105.

NESOMIMUS BINDLOEI Ridgway.

BINDLOE ISLAND MOCKINGBIRD.

Similar to *N. bauri*, but auricular region wholly uniform black, tips of lesser wing-coverts paler (nearly white on posterior row), and white of rectrices more extended; size smaller (except feet), the tarsus decidedly longer.

Adult male.—Length (skins), 202–210 (206); wing, 107.5–110 (108.7); tail, 98.5–100 (99.2); exposed culmen, 22.5–23.5 (23); tarsus, 35–36 (35.5); middle toe, 20–20.5 (20.2).[a]

Adult female.—Length (skins), 195–220 (207.5); wing, 99–108 (103.5); tail, 109; exposed culmen, 23; tarsus, 34–36 (35); middle toe, 20.5–21.5 (21).[d]

Bindloe Island, Galapagos Archipelago.

Nesomimus bindloei RIDGWAY, Proc. U. S. Nat. Mus., xvii (no. 1007, Nov. 15, 1894), 358 (Bindloe I., Galapagos; coll. Dr. G. Baur)[e] xix, 1897, 492 (monogr.).

Nesomimus melanotis bindloei ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 146 (crit.); ix, 1902, 383, 416 (habits; descr. nest and eggs.)

N[esomimus] melanotis bindloei ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200.

N[esomimus] melanotis bindloei ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416.

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[a] Three specimens.
[b] Author's edition of separates.
[c] Type now in collection of Tring Museum.
[d] Two specimens.
[e] Type now in collection of Tring Museum.

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Nesomimus personatus bindloei SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan., 28, 1904, 365 (crit.; measurements).

[*Nesomimus*] *bindloei* SHARPE, Hand-list, iv, 1903, 105.

NESOMIMUS PERSONATUS Ridgway.

ABINGDON ISLAND MOCKINGBIRD.

Similar to *N. melanotis*, but much larger and darker, with sides and flanks more strongly tinged with brown.

Adults (*sexes alike*).—Pileum, hindneck, back, scapulars, wings, and tail dull blackish, the feathers indistinctly margined or edged with dull grayish brown, these edgings much wider and more distinct on wings and tail; feathers of hindneck ash gray beneath the surface; lower back, rump, and upper tail-coverts dull grayish brown, the feathers darker centrally, forming indistinct streaks; middle and greater wing-coverts broadly tipped with dull white, forming two distinct bands across wing; remiges rather broadly margined at tips with dull light brownish gray (more brownish on tertials); three outer rectrices (on each side) broadly tipped with pale grayish brown (fading into dull white exteriorly), this color confined to the inner web on third rectrix; fourth rectrix with a more restricted and less definite lighter terminal space, and two middle pairs merely fading at tips into dull grayish brown edged with dull whitish; a superciliary stripe of dull grayish white, narrower, whiter, and more sharply defined over lores; lores, suborbital region, and auriculars dull black, forming a conspicuous patch along side of head; malar region, sides of neck, and lower parts white, the first speckled with dusky, the second spotted with same posteriorly, and the latter tinged with light brownish, except on chin and throat, the sides and flanks very distinctly washed or suffused with brown, the latter broadly streaked or striped with dusky; bill black, inclining to horn color at tip of upper and base of mandible; legs and feet brownish black.

Adult male.—Length (skins), 206–248 (231); wing, 108–113 (110.6); tail, 99–106 (103.2); exposed culmen, 25–28 (25.7); tarsus, 35–37.5 (36.2); middle toe, 21–23 (22.4).[a]

Adult female.—Length (skins), 190–228 (213); wing, 102–104 (103.5); tail, 99; exposed culmen, 24.5–26.5 (25.2); tarsus, 34–35 (34.5); middle toe, 20.5–22 (21.2).[b]

Abingdon Island, Galapagos Archipelago.

Nesomimus personatus RIDGWAY, Proc. U. S. Nat. Mus., xii, no. 767, Feb. 5, 1890, 104 (Abingdon I., Galapagos; coll. U. S. Nat. Mus.); xix, 1897, 488, pl. 56, fig. 5 (monogr.).

[*Nesomimus*] *personatus* SHARPE, Hand-list, iv, 1903, 105.

Nesomimus melanotis personatus ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 144 (crit.); ix, 1902, 382, 416 (habits; descr. nest and eggs).

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[a] Ten specimens.

[b] Six specimens (tail of only one measured, the rest being too much worn).

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N[esomimus] melanotis personatus ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200.

[*Nesomimus*] *melanotis personatus* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416.

Nesomimus personatus personatus SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan. 28, 1904, 363 (crit.; measurements).

NESOMIMUS MELANOTIS (Gould).

BLACK-BARED MOCKINGBIRD.

Similar to *N. personatus*, but bill much smaller, coloration paler, and flanks less strongly tinged with brown.

Young.—Similar to the young of *M. adamsi*, but pileum much darker (nearly uniform sooty slate), dusky centers to scapulars larger (occupying much the greater part of each feather), buffy brown hue of rump, etc., less pronounced, and edges of greater wing-coverts and tertials less strongly buffy.

Adult male.—Length (skins), 220–247 (231); wing, 112–118 (115.7); tail, 107–116 (111.2); exposed culmen, 23–23.5 (23.3); tarsus, 35–37.5 (36.2); middle toe, 20.5–22 (21.5).[a]

Adult female.—Length (skins), 222–233 (227); wing, 102–107 (104.7); tail, 100–105 (102); exposed culmen, 21.5–23 (22.1); tarsus, 34.5–36 (35.1); middle toe, 20.5–22 (21.2).[b]

James Island, Galapagos Archipelago; Charles Island (extinct)? Jervis Island?

Orpheus melanotis GOULD, Proc. Zool. Soc. Lond., 1837, 27 (Galapagos I.; coll. C. Darwin, now in coll. Brit. Mus.).

Mimus melanotis GOULD, Zool. Voy. "Beagle," iii, 1841, 62, pl. 17, part (James I.).—SCLATER, Proc. Zool. Soc. Lond., 1859, 345, part (James I.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323, part (James I.).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 124, 126, part (James and Charles islands).—SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 471, part (James and Charles islands).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 349.

[*Mimus*] *melanotis* GRAY, Hand-list, i, 1869, 262, no. 3828.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.

Nesomimus melanotis RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 102, part (James I.); xix, 1897, 489, part, pl. 56, fig. 3 (James I.; Charles I.?).

[*Nesomimus*] *melanotis* SHARPE, Hand-list, iv, 1903, 105, part (James and Jervis islands).

Nesomimus melanotis melanotis ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 145, part (Jervis and James islands, crit.)—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 369 (James and Jervis islands; crit.; measurements).

N[esomimus] melanotis melanotis ROTHSCHILD and HARTERT, Novit., Zool. vi, 1890, 200, part (Jervis and James islands).

[*Nesomimus*] *melanotis melanotis* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416, part (Jervis and James islands).

[*Mimus*] *parvulus* (not *Orpheus parvulus* Gould) BONAPARTE, Consp. Av., i, 1850, 277, part.

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[a] Five specimens. [b] Four specimens.

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NESOMIMUS DIERYTHRUS Heller and Snodgrass.

INDEFATIGABLE ISLAND MOCKINGBIRD.

Similar to *N. melanotis*, but wing and tail shorter, bill averaging shorter, and color of pileum and dorsal region paler; very similar in coloration to *N. adamsi* but without trace of submalar dusky streak, color of back averaging darker, lores and auricular region blacker, and sides of breast always unspotted.[a]

Adult male.—Length (skins), 205–235 (221); wing, 105–115 (110.9); tail, 103–116 (107.2); exposed culmen, 20–23.5 (22.1); tarsus, 35–37 (36.1); middle toe, 21–22.5 (21.8).[b]

Adult female.—Length (skins), 200–205 (202); wing, 100–105 (102.5); tail, 93–103(98); exposed culmen, 19.5–20 (19.7); tarsus, 34–35 (34.5); middle toe, 21.[c]

Indefatigable, Wenman, and Seymour islands, Galapagos Archipelago.

Mimus melanotis (not *Orpheus melanotus* Gould) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323, part (Indefatigable I.).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 124, 126, part (Indefatigable I.; crit.).—SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 471, part (Indefatigable).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 349, part.

[*Mimus*] *melanotis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3, part.

Nesomimus melanotis RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 102, part (Indefatigable I.); xix, 1897, 489, part (Indefatigable I.).

[*Nesomimus*] *melanotis* SHARPE, Hand-list, iv, 1903, 105, part (Indefatigable I.).

Nesomimus melanotis melanotis ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 145, part (Indefatigable I.; crit.); ix, 1902, 382, 416 (Seymour, Wenman, and Indefatigable islands; crit.; habits; descr. eggs).

N[*esomimus*] *melanotis melanotis* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200, part (Indefatigable and Wenman islands).

[*Nesomimus*] *melanotis melanotis* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416, part (Indefatigable, Seymour, and Wenman islands).

Nesomimus melanotis dierythrus HELLER and SNODGRASS, Condor, ii, May, 1901. 74 (North Seymour I., near Indefatigable, Galapagos Archipelago; coll. Leland Stanford Jr. Univ.).—SNODGRASS and HELLER, Proc. Wash. Acad. Sci., v, 1904, 367 (Indefatigable and Seymour islands; crit.; measurements).

[*Nesomimus*] *dicrythrus* SHARPE, Hand-list, iv, 1903, 105.

NESOMIMUS HULLI (Rothschild).

CULPEPPER ISLAND MOCKINGBIRD.

Similar to *N. melanotis*, but with whitish terminal margins of remiges much broader, and with a distinct blackish submalar streak. Similar also to *N. bauri* but streaks or spots on back slightly less

[a] These characters are taken from the paper by Snodgrass and Heller in Proc. Wash. Ac. Sci., v, pp. 367, 369, the small series of specimens of this form examined by me being in worn plumage and not suitable for satisfactory comparison.

[b] Nine specimens (eight from Indefatigable, and one from Seymour).

[c] Two specimens from Seymour Island.

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distinct, gray of pileum clearer (less brown), and flanks less heavily streaked.

Adult female.—Length (skin), 205; wing, 104; tail, 98; exposed culmen, 24; tarsus, 34.5; middle toe, 20.[a]

Culpepper Island, Galapagos Archipelago.

Nesomimus hulli ROTHSCHILD, Bull. Brit. Orn. Club, vii, no. liv, May 25, 1898, p. liii (Culpepper I., Galapagos Archipelago; coll. Tring Mus.); Ibis, 1898, 437 (reprint).

[*Nesomimus*] *hulli* SHARPE, Hand-list, iv, 1903, 105.

Nesomimus melanotis hulli ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 145 (crit.).

N[esomimus] *melanotis hulli* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200.

[*Nesomimus*] *melanotis hulli* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416.

Nesomimus personatus hulli SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan. 28, 1904, 365 (crit.; measurements).

NESOMIMUS BAURI Ridgway.

TOWER ISLAND MOCKINGBIRD.

Similar to *N. personatus*, but paler above, and with flanks more narrowly streaked; slightly larger (except bill and feet). Similar also to *N. hulli*, but dusky centers to scapulars and interscapulars more distinct, gray of pileum browner, and streaks on flanks broader.

Adult male.—Length (skins), 215–230 (222); wing, 116–119 (117.5); tail, 110–111 (110.5); exposed culmen, 25.5–26 (25.7); tarsus, 35–36 (35.5); middle toe, 21–22 (21.5).[b]

Adult female.—Length (skins), 210–220 (215); wing, 107–109 (108); tail, 96–105 (100.8); exposed culmen, 24–25 (24.4); tarsus, 33–34 (33.8); middle toe, 20–21 (20.3).[c]

Tower Island, Galapagos Archipelago.

Nesomimus bauri RIDGWAY, Proc. U. S. Nat. Mus., xvii (no. 1007, Nov. 15, 1894), 357 (Tower I., Galapagos Archipelago; coll. Dr. G. Baur);[d] xix, 1897, 492, pl. 56, fig. 4 (monogr.).

[*Nesomimus*] *bauri* SHARPE, Hand-list, iv, 1903, 105.

Nesomimus melanotis bauri ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 145 (crit.).

N[esomimus] *melanotis bauri* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200.

[*Nesomimus*] *melanotis bauri* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416.

Nesomimus personatus bauri SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan. 28, 1904, 362 (crit.; measurements.).

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[a] One specimen, the only example of the form seen by me. Messrs. Rothschild and Hartert give no measurements.

[b] Two specimens.

[c] Five specimens.

[d] Type now in collection of Tring Museum.

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NESOMIMUS BARRINGTONI Rothschild.

BARRINGTON ISLAND MOCKINGBIRD.

Similar to *N. melanotis*, "but distinguishable by a longer and slenderer bill, shorter wing, and generally paler upper surface."

Adult male.—Wing, 108–111; tail, 110–115; exposed culmen about 28.[a]

Adult female.—Wing, 99–104; tail, about 105; exposed culmen, about 26.[a]

Barrington and Wenman islands, Galapagos Archipelago.

Nesomimus carringtoni (typographical error) ROTHSCHILD, Bull. Brit. Orn. Club, viii, no. lvi, Oct. 31, 1898, p. vii (Barrington Island, Galapagos Archipelago; coll. Tring Mus.).

Nesomimus melanotis carringtoni ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 145 (crit.).

N[esomimus] melanotis carringtoni ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200.

[*Nesomimus*] *melanotis carringtoni* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 416.

Nesomimus melanotis melanotis ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 145, part (Wenman I.); ix, 1902, 382, 416, part (Wenman I.).

[*Nesomimus*] *barringtonensis* BAUR, Am. Nat., xxxi, Sept., 1897, folded leaflet facing p. 778 (Barrington I., Galapagos; nomen nudum!).

Nesomimus melanotis barringtoni SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan. 28, 1904, 368 (Barrington and Wenman islands; crit.; measurements).

[*Nesomimus*] *barringtoni* SHARPE, Hand-list, iv, 1903, 105.

NESOMIMUS PARVULUS (Gould).

ALBEMARLE ISLAND MOCKINGBIRD.

Essentially like *N. melanotis* (both adults and young) in coloration, but with much smaller and less curved bill, the exposed culmen 19–20; sides of head less dark, and general coloration of upper parts paler; in worn plumage a distinct brownish gray shade over chest, not present in *N. melanotis* or other allied forms.

Adult male.—Length (skins), 210–225 (217); wing, 105–111 (108.4); tail, 103–113 (108.4); exposed culmen, 19–20 (19.7); tarsus, 35–37.5 (36.2); middle toe, 20.5–21 (20.8).[b]

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[a] Rothschild, in original description. Two males and two females from Wenman Island in the collection of the U. S. National Museum measure as follows:

Males.—Length (skins), 206–217 (211.5); wing, 112–114 (113); tail, 105–110 (107.5); exposed culmen, 23–24.5 (23.7); tarsus, 35–36.5 (35.7); middle toe, 22.5–23 (22.7).

Females.—Length (skins), 200–203 (201.5); wing, 103; tail, 100; exposed culmen, 23–24 (23.5); tarsus, 32–33 (32.5); middle toe, 20.5.

[b] Five specimens.

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Adult female.—Length (skins), 195–203 (199); wing, 99–103 (100.5); tail, 97–105 (99.7); exposed culmen, 19–20 (19.6); tarsus, 33–36 (34.6); middle toe, 20–22 (20.6).[a]

Albemarle and Narborough islands, Galapagos Archipelago.

Orpheus parvulus GOULD, Proc. Zool. Soc. Lond., 1837, 27 (Galapagos Islands; coll. C. Darwin, now in coll. Brit. Mus.).

Mimus parvulus GOULD, Zool. Voy. "Beagle," iii, 1841, 63, pl. 18 (Albemarle I.).—SCLATER, Proc. Zool. Soc. Lond., 1859, 345 (monogr.).—SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 472.—SHARPE, Proc. Zool. Soc. Lond., 1877, 65 (Albemarle I.; crit.); Cat. Birds Brit. Mus., vi, 1881, 350.

[*Mimus*] *parvulus* BONAPARTE, Consp. Av., i, 1850, 277.—GRAY, Hand-list, i, 1869, 262, no. 3829.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 3.

M[*imus*] *parvulus* SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 127 (crit.).

Nesomimus parvulus RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 102 (Albemarle I.; crit.); xix, 1897, 491, pl. 56, fig. 1 (monogr.).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 129 (Albemarle I.); ix, 1902, 383 (Albemarle and Narborough islands; crit.; descr. nest and eggs).

[*Nesomimus*] *parvulus* SHARPE, Hand-list, iv, 1903, 105.

Nesomimus parvulus parvulus ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 146 (North and South Albemarle islands; crit.).

N[*esomimus*] *parvulus parvulus* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200 (Albemarle I.).

[*Nesomimus*] *parvulus parvulus* ROTHSCHILD and HARTERT Novit. Zool., ix, 1902, 416 (Albemarle and Narborough islands).

Nesomimus melanotis parvulus SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan. 28, 1904, 370 (crit.; measurements).

Nesomimus affinis ROTHSCHILD, Bull. Brit. Orn. Club, vii, no. liv, May 25, 1898, p. liii (Narborough I., Galapagos Archipelago; coll. Tring Mus.); Ibis, 1898, 437 (reprint).

Nesomimus parvulus affinis ROTHSCHILD and HARTERT, Novit. Zool., vi, Aug., 1899, 146 (crit.).

N[*esomimus*] *parvulus affinis* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 200.

[*Nesomimus*] *parvulus affinis* ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 146 (crit.).

[a] Four specimens.

Specimens from Narborough Island compare with those from Albemarle Island as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Albemarle Island	107.7	107.2	19.6	36.5	20.7
One adult male from Narborough Island	111	113	20	35	21
FEMALES.					
Two adult females from Albemarle Island	99.5	98.5	19.5	35.7	21.2
Two adult females from Narborough Island	101.5	101	19.7	33.5	20

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Genus OROSCOPTES Baird.

Oroscoptes Baird, Rep. Pacific R. R. Surv., ix, 1858, 346. (Type, *Orpheus montanus* Townsend.)

Oreoscoptes (emendation) Baird, Cat. N. Am. Birds, 1859, no. 225; Review Am. Birds, 1864, 42.

Rather small Mimidæ (length about 200 mm.) with long and pointed wing (outermost primary much less than half as long as ninth, the latter equal to or longer than fifth, the eighth and seventh longest); bill much shorter than head; tail shorter than wing, slightly rounded; upper parts brownish gray or grayish brown, under parts whitish, conspicuously streaked with dusky; lateral rectrices tipped with white, and wings with whitish and pale grayish edgings.

Bill much shorter than head (shorter than middle toe without claw), rather slender, its depth at frontal antiæ about equal to its width at same point, and equal to more than one-third the distance from nostril to tip of maxilla; exposed culmen shorter than middle toe without claw, nearly straight basally, gradually curved terminally; gonys straight; maxillary tomium faintly but decidedly concave in middle portion, faintly notched subterminally. Nostril oval or elliptical, positeriorly in contact with feathering of frontal antiæ, overhung by narrow membrane. Rictal bristles distinct, though few and weak. Wing rather long and pointed, the longest primaries exceeding longest secondaries by length of middle toe (without claw), or more; outermost (tenth) primary small and narrow, much less than half as long as ninth, the latter equal to or longer than fifth; eighth or eighth and seventh primaries longest. Tail slightly but decidedly shorter than wing, slightly rounded, the graduation less than distance from nostril to tip of maxilla. Tarsus rather long (less than one-third as long as wing), slender, the acrotarsium distinctly scutellate; middle toe (without claw) less than two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer somewhat farther; hallux shorter than inner toe, but much stouter; basal phalanx of middle toe united for about half its length to outer toe, almost wholly free from inner toe; claws normal in size (or rather small) and curvature.

Coloration.—Above brownish gray or grayish brown, the wings with pale gray and whitish edgings; lateral rectrices tipped with white; under parts whitish, conspicuously streaked with dusky.

Nidification.—Nest open above, bulky, composed externally of twigs, lined with finer materials, placed in dense desert shrubs. Eggs (3–5) bluish green, speckled or spotted with brown.

Range.—Arid plains and foothills of western North America. (Monotypic.)

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OROSCOPTES MONTANUS (Townsend).

SAGE THRASHER.

Adults in spring.[a]—Above light grayish brown (hair brown), the feathers of pileum and back slightly darker mesially, producing very indistinct streaks; wings and tail darker grayish brown, with pale grayish brown or brownish gray edgings; middle and greater wing-coverts narrowly tipped with dull white, producing two narrow bands; outermost primaries narrowly edged with white; inner webs of three or four outermost rectrices tipped with white, this about 10–20 mm. in extent on lateral rectrix, greatly decreasing in extent toward middle rectrices; an indistinct superciliary line of dull whitish; lores light grayish; subocular and auricular regions light grayish brown, narrowly streaked with dull whitish; malar region and under parts dull buffy white, passing into pale cinnamon-buff on flanks, anal region, and under tail-coverts; throat bordered along each side by a narrow submalar stripe, or series of streaks, of dusky or black; lower throat with sparse triangular or wedge-shaped small spots or streaks of dusky; chest, breast, sides, and flanks conspicuously streaked with dark grayish brown or sooty, the markings on chest in form of triangular or wedge-shaped spots rather than streaks; axillars and under wing-coverts pale grayish buff; bill dusky, the basal half (approximately) of mandible much paler (pinkish gray or pale pinkish brown in life); iris lemon yellow; legs and feet horn color or dusky in dried skins, olivaceous in life, the toes darker, with soles yellowish.

Adults in autumn.[b]—Similar to the spring plumage, but color of upper parts grayer, and tertials margined terminally with white.

Young.—Upper parts light grayish brown (decidedly browner than in summer adults), the pileum, back, scapulars, and rump rather broadly streaked with much darker grayish brown; streaks on under parts less sharply defined than in adults.

Adult male.—Length (skins), 185–216 (198); wing, 95–103 (98.7); tail, 87–95 (90.8); exposed culmen, 14.5–17.5 (16.4); tarsus, 28.5–31.5 (30.4); middle toe, 18–21 (19.1).[c]

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[a] January to June, after which latter date the plumage becomes more worn and faded.

[b] September, or immediately after post-nuptial molt, to December.

[c] Sixteen specimens.

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Adult female.—Length (skins), 187–202 (197); wing, 94–100 (96.2); tail, 85–92 (88.5); exposed culmen, 15–17 (16.4); tarsus, 29–32 (30.6); middle toe, 17–20 (18.5).[a]

Arid plains, mesas, and foothills of western United States, from the western border of the Great Plains, in western North Dakota, South Dakota, Nebraska, Kansas, and Texas to the eastern base of the Sierra Nevada and Cascade ranges; north to Montana, Idaho, and eastern British Columbia; during migration southward to northern Mexico, in States of Sonora, Chihuahua (Colonia Diaz), Coahuila, Nuevo Leon, and Tamaulipas (Nuevo Laredo; Camargo), over peninsula of Lower California to Cape San Lucas, and desert districts of southern California, casually to Guadalupe Island.

Orpheus montanus TOWNSEND, Journ. Ac. Nat. Sci. Phil., vii, 1837, 193 ("plains of the Rocky Mountains")[b]; Narrative, 1839, 338.—AUDUBON, Synopsis, 1839, 89; Birds Am., oct. ed., ii, 1841, 194, pl. 139.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 310 (New Mexico).

Turdus montanus AUDUBON, Orn. Biog., iv, 1838, 437, pl. 369, fig. 1.

Turdus (Orpheus) montanus TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 153.

Mimus montanus BONAPARTE, Geog. and Comp. List, 1838, 17.—GAMBEL, Proc. Ac. Nat. Sci. Phila., iii, 1846, 113 (California); Journ. Ac. Nat. Sci. Phila., i, 1847, 42 (do.).—MCCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 216 (Texas).—HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1853, 264 (San Diego, California, winter); Rep. Pacific R. R. Surv., x, pt. iv, 1859, 44 (San Diego to Fort Yuma, California, etc.).—WOODHOUSE, in Rep. Sitgreaves' Expl Zuñi and Col. R., 1853, 73 (Zuñi Mt., New Mexico).

[*Mimus*] *montanus* BONAPARTE, Consp. Av., i, 1850, 276.

Oroscoptes montanus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 347.—COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 65 (Fort Whipple, Arizona); Birds Col. Val., 1878, 48; Check List, 2d ed., 1882, no. 14.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 702.—EVERMANN, Auk, iii, 1886, 185 (Santa Paula, Ventura Co., California, 1 spec., Mar. 12).—BRYANT (W. E.), Bull. Cal. Ac. Sci., ii, 1887, 307 (Guadaloupe I., 1 spec., Jan. 7).—LLOYD, Auk, iv, 1887, 297 (Tom Green Co., w. Texas, resident; Concho Co., breeding).—

[a] Eleven specimens.

Specimens from different geographic areas average, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Texas	98.4	91.4	16	29.8	19.3
Five adult males from Rocky Mountains and Great Basin	98	90.2	16.8	31.2	19.1
Two adult males from southern California	100.7	90.3	16.7	30.3	18.5
FEMALES.					
Five adult females from Texas	96.4	87.9	16.4	31.1	18.5
Four adult females from Arizona	96.6	90.5	16.1	30	18.6
Two adult females from southern California	95	86	17	30.5	18

[b] According to Coues (Auk, vii, 1900, 69) the type locality is Big Sandy River, a tributary of Green River, in Wyoming.

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BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 689 (Corpus Christi and Beeville, s. e. Texas, Jan., Feb.; San Antonio and Leon Springs, Mar.; habits).—COOKE, Bird Migr. Miss. Val., 1888, 265 (Texas localities only).—STEPHENS, Auk, vii, 1890, 297 (Colorado Desert, Jan.).—ATTWATER, Auk, ix, 1892, 342 (San Antonio, Texas, migrant).—NEHRLING, Our Native Birds, etc., i, 1893, 38, pl. 4, fig. 3.—THORNE, Auk, xii, 1895, 218 (Tongue R., Montana, Sept.).—GRINNELL (J)., Pub. ii, Pasadena Acad. Sci., 1898, 47 (San Fernando Valley, 2 specs., Mar. 13, 1897).—CARROLL, Auk, xvii, 1900, 348 (Refugio Co., Texas, winter).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 435.—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 194 (La Paz, Lower California, Jan.; crit.).—SNODGRASS, Auk, xx, 1903, 208 (Ephrata, Grand Coulé, Crab Creek, and near Sprague, centr. Washington); xxi, 1904, 232 (Yakima and Wallawalla counties, Washington).

O[roscoptes] montanus COUES, Key N. Am. Birds, 2d ed., 1884, 249; 5th ed., i, 1903, 282.—RIDGWAY, Man. N. Am. Birds, 1887, 541.

Oreoscoptes montanus BAIRD, Cat. N. Am. Birds, 1859, no. 225; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 12 (Tamaulipas, Mexico; Gila R., Arizona); in Ives' Rep. Expl. Col., v, 1861, 6; Review Am. Birds, 1864, 42.—SCLATER, Proc. Zool. Soc. Lond., 1859, 340 (monogr.); Cat. Am. Birds, 1862, 8.—KENNERLY, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 25 (Zuñi, New Mexico; Bill Williams Fork, Arizona).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 107 (New Mexico).—HAYDEN, Trans. Am. Philos. Soc., xii, 1863, 163 (Black Hills and Fort Laramie, Wyoming).—DRESSER, Ibis, 1865, 482 (San Antonio, Texas, winter; a few breeding).—BUTCHER, Proc. Ac. Nat. Sci. Phila., xx, 1868, 149 (Laredo, Texas).—COOPER, Proc. Cal. Acad. Sci., 1870, 75 (Colorado R., California); Orn. Cal., 1870, 13 (do.).—COUES, Check List, 1873, no. 7; Birds Northwest, 1874, 7.—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 174 (e. Colorado; Ogden, Utah); Proc. Bost. Soc. N. H., xvii, 1874, 97 (Yellowstone R.).—TRIPPE, in Coues' Birds Northwest, 1874, 228 (Idaho Springs, Colorado, 1 spec., May 10).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, i, 1874, 32, pl. 3, fig. 6.—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 339, 352, 355 (California; Nevada; Utah).—HENSHAW, Zool. Expl. W. 100th Merid., 1875, 149 (localities in Utah, Colorado, New Mexico, Arizona, and Nevada; habits; descr. nest and eggs).—RIDGWAY, Orn. 40th Parallel, 1877, 399 (Carson City, Nevada, Mar. 24-Oct. or Nov.; Austin, Nevada, breeding; islands in Great Salt Lake, breeding); Nom. N. Am. Birds, 1881, no. 10.—BENDIRE, Proc. Bost. Soc. N. H., 1877, 110 (Camp Harney, e. Oregon, breeding).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 333.—BELDING, Proc. U. S. Nat. Mus., i, 1879, 397 (Soda Springs, California, 1 spec., Oct. 1); v, 1883, 534 (La Paz, etc., Lower California, winter).

[*Oreoscoptes*] *montanus* COUES, Key N. Am. Birds, 1872, 74.—SHARPE, Hand-list, iv, 1903, 106.

Genus ALLENIA Cory.

Allenia[a] CORY, Auk, viii, Jan., 1891, 42, in text. (Type, *Turdus montanus* Lafresnaye=*T. apicalis* Hartlaub.)

Medium-sized Mimidæ (length about 220 mm.) with relatively short and depressed bill, long pointed wing, tail decidedly shorter than wing, tarsus little longer than middle toe with claw, the upper parts plain sooty brown (with white markings on wings, the lateral rectrices also tipped with white), the under parts mixed brown and white.

[a] To Dr. J. A. Allen.

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Bill about half as long as head (shorter than middle toe without claw), much broader than deep at base, its width at frontal antiæ equal to much more than half the distance from nostril to tip of maxilla; exposed culmen shorter than middle toe without claw, gradually curved from base, slightly arched; gonys faintly convex, ascending terminally; maxillary tomium faintly concave anterior to middle portion, distinctly notched subterminally. Nostril rather large, ovate, posteriorly nearly in contact with feathering of frontal antiæ, margined superiorly and (very narrowly) posteriorly by membrane. Rictal bristles weak. Wing long and rather pointed, the longest primaries exceeding secondaries by lenth of tarsus, or slightly less; outermost (tenth) primary about half as long as ninth, the latter nearly as long as fourth; seventh and sixth primaries longest. Tail decidedly shorter than wing, slightly rounded (graduation equal to little more than half the length of middle toe without claw), the rectrices rather rigid. Tarsus short (about one-fourth as long as wing), the acrotarsium distinctly scutellate; middle toe (without claw) about three-fourths as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer slightly farther; hallux shorter than inner toe, but much stouter; basal phalanx of middle toe united for slightly more than half its length to outer toe, for one-fourth, or less, to inner toe.

Coloration.—Upper parts plain sooty brown or sepia, with more or less of white at tip of greater wing-coverts and tertials, the lateral rectrices likewise tipped with white; under parts brown anteriorly, white posteriorly, the brown feathers tipped with white.

Nidification.—Nest composed of twigs, etc., open above. Eggs plain bluish green.

Range.—Lesser Antilles. (Monotypic.)

ALLENIA APICALIS (Hartlaub).

SCALY-BREASTED THRASHER.

Adults (*sexes alike*).—Above plain deep sepia brown, the remiges and rectrices slightly darker with paler grayish brown indistinct edgings; tertials margined terminally with white, most broadly on inner web; greater wing-coverts narrowly tipped with white, sometimes forming a distinct narrow band; inner web of rectrices (except middle pair) with a terminal white spot, decreasing in size toward the middle pair; sides of head and neck similar in color to upper parts; under parts lighter sepia brown, becoming white on abdomen, anal region, and under tail-coverts (sometimes on median portion of breast also), the feathers of the chin, throat, chest, breast, sides, and flanks more or less broadly margined with white, producing a scaled appearance; under tail-coverts with a central or basal triangular space of brown; bill blackish, the lower basal portion of mandible more or

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less brownish; iris white or pale yellow; legs and feet horn brownish (in dried skins).[a]

Immature.—Similar to adults, but larger wing-coverts and secondaries edged (the former also margined terminally) with brownish buff or cinnamon; iris brownish. (Young in first plumage not seen.)

Adult male.—Length (skins), 184–260 (218); wing, 107.5–128 (117.7); tail, 83.5–104 (94.3); exposed culmen, 17–21.5 (19.1); tarsus, 27–32.5 (29.1); middle toe, 19–22 (20.5).[b]

Adult female.—Length (skins), 190–243 (216); wing, 108.5–125 (116.7); tail, 82–102.5 (92.6); exposed culmen, 17–20.5 (18.9); tarsus, 26.5–32.5 (29); middle toe, 17.5–22.5 (20.3).[c]

Lesser Antilles (islands of St. Eustatius, St. Christopher, Antigua, Barbuda, Guadeloupe, Desiradé, Marie Galante, Dominica, Martinique, Santa Lucia, St. Vincent, Carriacou, Grenada, and Barbados).

Turdus montanus (not of Voigt, 1831) LAFRESNAYE, Rev. Zool., vii, May. 1844, 167 (Guadeloupe, Lesser Antilles).

T[urdus] montanus GRAY, Gen. Birds, i, 1847, 219.

[*Turdus*] *montanus* GRAY, Hand-list, i, 1869, 259, no. 3787.

[a] Said to be dark green in life (Semper, Proc. Zool. Soc. Lond., 1871, 268).

[b] Thirty-four specimens.

[c] Twenty-four specimens.

Average measurements of specimens from different islands are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Saba	123.5	98.5	20.5	32.5	21.5
Three adult males from St. Eustatius	113.5	97.7	19.2	30.2	20.7
Two adult males from St. Christopher	123.2	100.5	19.5	29.7	21.5
Three adult males from Antigua	117.8	101.2	20.3	31.2	20.8
Three adult males from Guadeloupe	122.7	99.3	19.7	31	21.2
One adult male from Desiradé	125.5	104	19.5	30	20.5
Six adult males from Dominica	117.7	93.2	18.3	28	20.1
Three adult males from Martinique	114	88.2	19.3	28	19.8
Seven adult males from Santa Lucia	117.5	91.5	18.9	28	20.3
One adult male from St. Vincent	118.5	95.5	18	28.5	20
Four adult males from Grenada	113.7	86.8	18.3	28.2	20.3
FEMALES.					
One adult female from St. Christopher	118	92	20.5	.....	.....
Three adult females from Antigua	115.8	100.2	19.5	30.7	21
Five adult females from Guadeloupe	116	97.2	19.2	30.4	21.8
Three adult females from Dominica	121.2	96.7	19	29.7	19.7
Two adult females from Martinique	113.5	88.7	18.7	28.2	20.2
Three adult females from Santa Lucia	116.8	87.3	18.3	28.5	18.8
One adult female from St. Vincent	118.5	93.5	19.5	29.5	21
Six adult females from Grenada	116.1	86.9	18.7	28.4	19.6

So far as I am able to judge, there is no constant difference in coloration between specimens from different islands, while as to measurements the individual variation is very marked (if sexing of specimens is to be trusted) without regard to locality.

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Margarops montanus SCLATER, Proc. Zool. Soc. Lond., 1859, 336 (monogr.; Guadeloupe); 1871, 268 (Santa Lucia); 1889, 326 (Dominica).—SEMPER, Proc. Zool. Soc. Lond., 1872, 648 (Santa Lucia; habits).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 52 (Dominica; descr. nest and eggs), 187 (St. Vincent); i, 1879, 351 (Martinique; habits), 453 (Guadeloupe), 486 (Guadeloupe; Dominica; Martinique; St. Vincent).—LISTER, Ibis, 1880, 39 (St. Vincent).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia).—CORY, Ibis, 1886, 474 (Desiradé); Auk, iii, 1886, 15; iv, 1887, 95 (Martinique); Birds West Ind., 1889, 29.—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 129 (Santa Lucia).

[*Margarops*] *montanus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List Birds West Ind., 1885, 6.—SCLATER, Proc. Zool. Soc. Lond., 1889, 395 (Santa Lucia).

Cichlherminia montana SHARPE, Cat. Birds Brit. Mus., vi, 1881, 330.

Allenia montana CORY, Auk, viii, Jan., 1891, 42 (crit.), 47 (Antigua; St. Eustatius), 48 (St. Christopher), 49 (Guadeloupe); Cat. West Ind. Birds, 1892, 19, 121, 157 (St. Eustatius, St. Christopher, Antigua, Guadeloupe, Desiradé, Marie Galante, Dominica, Martinique, Santa Lucia, St. Vincent, and Barbados, Lesser Antilles).—VERRILL, Trans. Conn. Acad. Sci., viii, 1892, 345 (Dominica; habits; song; descr. nest and eggs).

[*Allenia*] *montana* SHARPE, Hand-list, iv, 1903, 110.

Margarops albiventris LAWRENCE, Ann. N. Y. Acad. Sci., iv, 1887, 23 (St. Andrews, Grenada, Lesser Antilles; coll. U. S. Nat. Mus.).—WELLS, Auk, xix, 1902, 349 (Carriacou; came from St. Vincent with hurricane of Sept. 11, 1898).

Margarops montanus albiventris CORY, Auk, v, Apr., 1888, 157; Birds West Ind., 1889, 285.

Allenia albiventris RILEY, Smithsonian Misc. Col. (quarterly issue), xlvii, no. 1485, Nov. 8, 1904, 288 (Barbuda; Antigua; crit.).

Margarops montanus rufus CORY, Auk, v, Jan., 1888, 47 (Dominica, Lesser Antilles; coll. C. B. Cory), 147; Birds West Ind., 1889, 285.—SCLATER, Proc. Zool. Soc. Lond., 1889, 327, in text (Dominica).

Turdus apicalis HARTLAUB, Syst. Orn. West-Africas, 1857, 76 (ex *Crateropus apicalis* Lichtenstein, Nom. Av. Mus. Berol., 1854, 27, = nomen nudum).—CABANIS, Journ. für Orn., 1874, 350 (crit.).

Allenia apicalis RILEY, Proc. Biol. Soc. Wash., xviii, June 29, 1905, 186 (crit.).

Genus MARGAROPS Sclater.

Cichlalopia (not of Bonaparte, 1854) BONAPARTE, Rev. Zool., 1857, 205. (Type, *Turdus fuscatus* Vieillot.)

Margarops [a] SCLATER, Proc. Zool. Soc. Lond., 1859, 335. (Type, *Turdus fuscatus* Vieillot.)

Large Mimidæ (length about 275 mm.) with large, stout, compressed bill, long, pointed wing, tail decidedly shorter than wing, and streaked brown coloration.

Bill nearly as long as head (longer than middle toe without claw), much compressed, its depth at frontal antiæ decidedly greater than its width at same point; exposed culmen longer than middle toe without claw, nearly straight for most of its length, gradually and strongly decurved terminally; gonys nearly straight, ascending terminally; maxillary tomium nearly straight to the distinct subter-

[a] "μάργαρος et ω ψ—sc. 'Pearly-eyed Thrush'."

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minal notch, the tip of maxilla slightly uncinate. Nostril broadly oval or elliptical, posteriorly in contact with feathering of frontal antiæ, margined above by narrow membrane. Rictal bristles distinct. Wing long and pointed, the longest primaries exceeding secondaries by length of middle toe without claw; outermost (tenth) primary more than half as long as ninth, but less than half as long as eighth; ninth intermediate between second and third, the seventh and sixth longest (but only slightly longer than eighth and fifth). Tail decidedly shorter than wing, slightly rounded (graduation equal to less than half the length of middle toe without claw), the rectrices rigid. Tarsus rather short (between one-fourth and one-third as long as wing), rather stout, with acrotarsium distinctly scutellate; middle toe (without claw) about three-fourths as long as tarsus; lateral toes unequal, the inner (without claw) reaching to slightly beyond subterminal joint of middle toe, the outer somewhat farther; hallux shorter than inner toe, but much stouter; basal phalanx of middle toe united for half its length (or more) to outer toe, for about one-fourth to inner toe.

Coloration.—Above sooty brown with feathers of pileum, back, etc., margined with paler brown; tertials and upper tail-coverts margined with white; lateral rectrices broadly tipped with white; under parts streaked and blotched with brown and white.

Nidification.—Nest in bushes, open above; eggs immaculate deep bluish green (like those of *Galeoscoptes*).

Range.—West Indies: Greater Antilles (except Cuba and adjacent Caymans), Lesser Antilles and Bahamas, and island of Bonaire, near Venezuela. (Monotypic.)

MARGAROPS FUSCATUS FUSCATUS (Vieillot).

PEARLY-EYED THRASHER.

Adults (*sexes alike*).—Above grayish brown, the feathers darker (sepia brown) centrally, producing an indistinctly spotted or scaled effect; longer upper tail dark sepia brown, broadly margined with white; wings and tail deep sepia brown with lighter grayish brown edgings, the tertials margined terminally with white (except in worn midsummer plumage), the tail (except middle rectrices [a]) tipped with white, the white very much broader on inner than on outer web and decreasing in extent toward the middle rectrices; whole sides of head and neck, including malar region, grayish brown, sometimes faintly streaked with paler, especially on rictal region and malar apex; under parts white, the chin, throat, and chest streaked with grayish brown, these streaks much broader on chest, where sometimes more or less confluent; sides of breast, sides, and flanks light grayish brown, the

[a] Sometimes these also are narrowly tipped with white.

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feathers indistinctly margined with white, outwardly, those toward white of abdomen and center of breast with V-shaped marks of grayish brown; under tail-coverts white with mostly concealed V-shaped marks of grayish brown; bill pale brown (in dried skins); iris yellow, yellowish white, or white; tarsi light horn color, toes darker.

Adult male.—Length (skins), 248–297 (272); wing, 124.5–143.5 (135.3); tail, 94.5–120.5 (112); exposed culmen, 26–30 (27.7); tarsus, 32.5–38.5 (37.5); middle toe, 23.5–28.5 (25.8).[a]

Adult female.—Length (skins), 248–312 (275); wing, 130–142 (137.5); tail, 104.5–118.5 (112.3); exposed culmen, 25–30 (28); tarsus, 34–37 (35.5); middle toe, 24–27 (25.6).[b]

Bahamas (Watlings Island, Rum Cay, Maraguna,[c] North Caicos,[c] Grand Caicos,[c] East Caicos,[c] and Great Inagua[c]); Jamaica, Haiti,[c] Mona, Porto Rico, St. Thomas, St. Johns, Tortola,[c] and Virgin Gorda,[c] Greater Antilles; St. Martins, St. Eustatius, St. Christopher, Barbuda, and Antigua (probably also Anguilla[a]), Lesser Antilles; island of Bonaire,[c] Dutch West Indies.

Turdus fuscatus VIEILLOT, Ois. Am. Sept., ii, 1807, 1, pl. 57 bis (Santo Domingo; Porto Rico); Nouv. Dict. d'Hist. Nat., xx, 1816, 226; Enc. Méth., ii, 1823, 639.—BONAPARTE, Consp. Av., i, 1850, 276.

T[*urdus*] *fuscatus* GRAY, Gen. Birds, i, 1847, 219.

[*Turdus*] *fuscatus* GRAY, Hand-list, i, 1869, 259, no. 3785.

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[a] Twenty-one specimens.

[b] Seventeen specimens.

Specimens from different islands average, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Rum Cay, Bahamas	136.1	111.2	27.8	35.9	25.7
One adult male from Watlings Island, Bahamas	136.5	110.5	27.5	32.5	23.5
Six adult males from Porto Rico	137.8	113.4	27.1	35.6	25.3
One adult male from St. Johns	143.5	118	27.5	36.5	25
Two adult males from St. Thomas	136.2	111.5	27.7	36.5	25.2
One adult male from St. Eustatius	142	114.5	30	38	28.5
Four adult males from Antigua	128.3	109.7	27.7	37.5	26.5
FEMALES.					
Two adult females from Rum Cay	138	112.5	28.5	35.7	26
Two adult females from Watlings Island	139	112.5	27.5	34.7	25.1
Five adult females from Porto Rico	138.4	113.9	28.2	34.7	25.1
Two adult females from St. Johns	139.5	113	28	36.7	26.2
One adult female from St. Thomas	133.5	114.5	28.5	36	26
One adult female from Jamaica	139.5	104.5	.....	34.5	24.5
One adult female from St. Croix	130	107	27.5	35.5	25.5
One adult female from St. Eustatius	140	114.5	28	37	26.5
One adult female from St. Christopher	135.5	105	30	36.5	26.5
One adult female from Sombrero	133.5	113.5	25	36.5	25

There seems to be no color difference between specimens from the different islands.

[c] Specimens from these islands not seen by me.

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Mimus fuscatus BONAPARTE, Compt. Rend., xxxviii, 1854, 2, footnote.

Cichlalopia fuscatus BONAPARTE, Rev. Zool., 1857, 204.

Cichlherminia fuscata NEWTON (A. and E.), Ibis, 1859, 141, pl. 12, fig. 8, egg (St. Croix; habits; descr. eggs).—SHARPE, Cat. Birds Brit. Mus., vi, 1886, 329 (St. Croix; St. Thomas; Inagua, Bahamas).—CORY, Auk, viii, 1891, 43 (Inagua, Bahamas; Santo Domingo; Porto Rico; St. Croix; St. Thomas; Virgin Gorda; Tortola), 48 (St. Croix).

Margarops fuscatus SCLATER, Proc. Zool. Soc., Lond., 1859, 335 (monogr.); 1892, 498 (Anguilla); Cat. Am. Birds, 1862, 6.—BAIRD, Review Am. Birds, 1864, 42.—(?) LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 98 (Sombrero).—GUNDLACH, Journ. für Orn., 1874, 310 (Porto Rico); 1878, 159 (Porto Rico), 166 (Porto Rico; habits); Anal. Soc. Esp. Hist. Nat., vii, 1878, 172 (do.).—CORY, Birds Bahama I., 1880, 47; Birds Haiti and San Dom., 1885, 22; Auk, iii, 1886, 14; vii, 1890, 375 (Tortola; Virgin Gorda); viii, 1891, 297 (Caicos Islands), 298 (Inagua), 351 (Inagua); ix, 1892, 48, 49 (Maraguna and Watlings I., Bahamas); Birds West Ind., 1889, 28; Cat. West Ind. Birds, 1892, 19, 121 (Watlings I., Rum Cay, Maraguna, North Caicos, Grand Caicos, East Caicos, and Great Inagua, Bahamas; Haiti, Mona, Porto Rico, St. Thomas, Tortola, and Virgin Gorda, Greater Antilles).—RIDGWAY, Auk, viii, 1891, 337 (Watlings I.), 338 (Rum Cay).—(?) HARTERT, Bull. Brit. Orn. Club, no. iii, 1892, p. xii, in text (Bonaire); Ibis, 1893, 327 (Bonaire; crit.: habits); (Novit. Zool., ix, 1902, 297 (Bonaire; crit.).—BOWDISH, Auk, xx, 1903, 20 (Porto Rico; habits, song, etc.).—BONHOTE, Auk, xx, 1903, 177 (Bird Rock, Bahamas).—RILEY, Smithsonian Misc. Coll., xlvii, 1904, 288 (Barbuda; Antigua).

[*Margarops*] *fuscatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List Birds West Ind., 1885, 6.—SHARPE, Hand-list, iv, 1903, 110.

Merula fuscata CASSIN, Proc. Ac. Nat. Sci., 1860, 376 (St. Thomas).

Colluricincla fusca GOULD, Proc. Zool. Soc. Lond., 1836, 6 ("vel in Nova Zealandia vel in Nova Cambria Australi;" coll. Zool. Soc. Lond.?).

Margarops densirostris (not *Turdus densirostris* Vieillot) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 233 (Antigua); i, 1879, 486, part (Antigua).—NICOLL, Ibis, 1904, 574 (Antigua).

Margarops fuscatus densirostris CORY, Auk, viii, Jan., 1891, 47, (Antigua; St. Eustatius); Cat. West Ind. Birds, 1892, 121, part (Anguilla?; St. Eustatius; St. Christopher; Barbuda; Antigua).

MARGAROPS FUSCATUS DENSIROSTRIS (Vieillot).

DARKER PEARLY-EYED THRASHER.

Similar to *M. f. fuscatus*, but brown of upper parts slightly darker and that of under parts both darker and more extended (the streaks or other markings broader.[a]

Adult male.—Length (skins), 267–297 (286); wing, 134–145.5 (141.3); tail, 106–114.5 (111.2); exposed culmen, 26.5–27 (26.8); tarsus, 34.5–35.5 (34.8); middle toe, 23.5–25.5 (24.8).[b]

Adult female.—Length (skins), 264–272 (268); wing, 136.5–138.5 (137.2); tail, 106–109.5 (108.3); exposed culmen, 26–27.5 (27); tarsus, 35–36.5 (35.8); middle toe, 24–25.5 (24.8).[b]

[a] This is not a very strongly marked form, and I am only able to characterize it by restricting its range to the islands mentioned above.

[b] Three specimens (from Guadeloupe and Dominica).

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Islands of Montserrat, Guadeloupe, Dominica, Martinique,[a] Santa Lucia,[a] and Barbados,[a] Lesser Antilles.

Turdus densirostris VIEILLOT, Nouv. Dict. d'Hist. Nat., xx, 1818, 232 (Martinique, Lesser Antilles); Enc. Méth., ii, 1823, 642.—LAFRESNAYE, Rev. Zool., 1844, 167.—BONAPARTE, Consp. Av., i, 1850, 271.

T[*urdus*] *densirostris* GRAY, Gen. Birds, i, 1847, 219.

[*Turdus*] *densirostris* GRAY, Hand-list, i, 1869, 259, no. 3786.

Cichlherminia densirostris BONAPARTE, Compt. Rend., xxxviii, 1854, 2, footnote.

Cichlherminia densirostris SHARPE, Cat. Birds Brit. Mus., vi, 1881, 330, part (Dominica; Martinique; Guadeloupe; Montserrat).

Cichlherminia fuscata densirostris VERRILL (G. E.), Trans. Conn. Acad. Sci., viii, April, 1892, 346 (Dominica; habits; song; descr. nest and eggs).

Margarops densirostris SCLATER, Proc. Zool. Soc. Lond., 1859, 336 (monogr.; Guadeloupe; Martinique); 1879, 765 (Montserrat); 1889, 395 (Santa Lucia). BAIRD, Review Am. Birds, 1864, 59.—LAWRENCE, Proc. U. S. Nat Mus., i, 1878, 52 (Dominica; habits); i, 1879, 351 (Martinique), 453 (Guadeloupe), 486, part (Guadeloupe; Dominica; Martinique).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia).—CORY, Ibis, 1886, 474 (Desiradé); Auk, iii, 1886, 15; iv, 1887, 95 (Dominica, Martinique, and Santa Lucia; crit.); Birds West Ind., 1889, 29.—FEILDEN, Ibis, 1889, 480 (Barbados).

[*Margarops*] *densirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List Birds West Ind., 1885, 6.—SHARPE, Hand-list, iv, 1903, 110.

Margarops fuscatus densirostris CORY, Auk, viii, Jan., 1891, 43, part (Anguilla; Montserrat; Dominica; Martinique; Guadeloupe; Santa Lucia; Barbados); Cat. West Ind. Birds, 1892, 121, part.

Genus RAMPHOCINCLUS Lafresnaye.

Ramphocinclus LAFRESNAYE, Rev. Zool., vi, 1843, 66. (Type, *Turdus brachyurus* Vieillot.)

Rhamphocinclus (emendation) SCLATER, Proc. Zool. Soc. Lond., 1859, 337.

Legriocinclus LESSON, Descr. Mamm. et Ois., 1847, 278. (Type, *Petrodroma mexicana* Lesson = *Turdus brachyurus* Vieillot.)

Cinclops BONAPARTE, Compt. Rend., xxxviii, 1854, 1, 64, footnote. (Nomen nudum!)

Medium-sized Mimidæ (length about 200 mm.), with tail much shorter than wing, long and decurved bill (exposed culmen about equal to middle toe without claw), distinct rictal bristles, the coloration plain sooty brown above, white beneath.

Bill slightly shorter than head, or about as long, slightly though distinctly decurved for terminal half, its width at frontal antiæ about equal to its height at same point; exposed culmen about equal in length to middle toe without claw or slightly longer, straight basally but soon becoming gently decurved, the terminal portion strongly decurved; gonys straight basally, faintly concave subter-

[a] Mr. Cory (Cat. Birds West Indies, p. 121) includes in the range of this form also the islands of Anguilla, St. Eustatius, St. Christopher, Barbuda, and Antigua. I have not been able to examine a specimen from Anguilla, but those seen by me from the other islands named I am unable to distinguish from true *M. fuscatus*. In Ibis, 1886, 474, Mr. Cory also cites the form from Desiradé.

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minally; maxillary tomium gently but decidedly concave, distinctly notched subterminally. Nostril broadly oval or ovate, overhung posteriorly by membrane, its posterior end in contact, or very nearly so, with feathering of frontal antiæ. Rictal bristles distinct. Wing rather long, the longest primaries exceeding longest secondaries by nearly as much as distance from nostril to tip of maxilla; outermost (tenth) primary more than half as long as ninth (sometimes more than half as long as longest), ninth longer than longest secondaries (intermediate between second and third), the sixth and fifth, or seventh, sixth, and fifth, longest. Tail slightly shorter than distance from bend of wing to tip of longest secondaries, distinctly rounded (graduation decidedly less than distance from nostril to tip of maxilla), the rectrices rather rigid. Tarsus less than one-third as long as wing, rather slender, the acrotarsium scutellate but scutella sometimes indistinct, especially on outer side; middle toe (without claw) about two-thirds as long as tarsus; lateral toes unequal, the inner (without claw) reaching to subterminal joint of middle toe, the outer to slightly beyond; hallux shorter than middle toe but much stouter; basal phalanx of middle toe united for about half its length to outer toe, at base only to inner toe; claws normal as to size and curvature.

Coloration.—Upper parts uniform sooty brown, under parts white, with sides and flanks sooty brown or grayish brown.

Nidification.—(Unknown.)

Range.—Lesser Antilles (islands of Martinique and Santa Lucia). (Two species.)

KEY TO THE SPECIES OF RAMPHOCINCLUS.

a. Sides and flanks light grayish brown, much paler than upper parts; smaller (adult male averaging, wing 96.5, tail 77.3, exposed culmen 23.4, tarsus 30.2; adult female, wing 98.4, tail 77.2, exposed culmen 22.7, tarsus 29.9). (Island of Martinique, Lesser Antilles.).....**Ramphocinclus bachyurus** (p. 269)

aa. Sides and flanks dark sooty brown, as dark as color of upper parts; larger (adult male averaging, wing 105.2, tail 83.5, exposed culmen 26, tarsus 33.4; adult female, wing 107.7, tail 87.7, exposed culmen 25.7, tarsus 34.3). (Island of Santa Lucia, Lesser Antilles.....**Ramphocinclus sanctæ-luciæ** (p. 270)

RAMPHOCINCLUS BRACHYURUS (Vieillot).

WHITE-BREASTED TREMBLER.

Adults (sexes alike).—Above plain deep sooty brown (between sepia and clove brown), the wings and tail darker (blackish brown or clove brown); loral, suborbital and auricular regions and upper margin of malar region uniform black or blackish brown; most of malar region, chin, throat, chest, breast, and abdomen, white; sides, flanks, and under tail-coverts grayish brown (decidedly paler than color of upper parts), the under tail-coverts usually margined, more or less distinctly,

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with whitish; bill black, the basal portion of mandible usually more brownish; iris red;[a] legs and feet dusky horn color or blackish (in dried skins).[b]

Adult male.—Length (skins), 186–212 (200); wing, 92–100 (96.5); tail, 72–85 (77.3); exposed culmen, 20–24.5 (23.4); tarsus, 29–31.5 (30.2); middle toe, 19–23 (21.4).[c]

Adult female.—Length (skins), 195–225 (204); wing, 95–106 (98.4); tail, 70–84.5 (77.2); exposed culmen, 22–23 (22.7); tarsus,29–31 (29.9); middle toe, 21–23 (21.8).[d]

Island of Martinique, Lesser Antilles.

Turdus brachyurus VIEILLOT, Nouv. Dict. d'Hist. Nat., xx, 1818, 255 (Martinique, Lesser Antilles); Enc. Méth., ii, 1823, 655.

T[urdus] brachyurus GRAY, Gen. Birds, i, 1847, 219.

Ramphocinclus brachyurus LAFRESNAYE, Nov. Zool., 1843, 66.—TAYLOR, Ibis, 1864, 166 (Martinique).—BAIRD, Review Am. Birds, 1864, 41 (Martinique).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1879, 352, 486 (Martinique; habits).—CORY, Auk. iii, 1886, 16, part (do.); Birds West Ind., 1889, 30.

[*Ramphocinclus*] *brachyurus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part (Martinique).—CORY, List Birds West Ind., 1885, 6, part (Martinique).

Rhamphocinclus brachyurus SCLATER, Proc. Zool. Soc. Lond., 1859, 338, part (monogr.; Martinique; Guadeloupe?); Cat. Am. Birds, 1862, 7 (Martinique).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 325, part (Martinique).—CORY, Cat. West I. Birds, 1892, 19, 120, 133 (Martinique).

[*Rhamphocinclus*] *brachyurus* SHARPE, Hand-list, iv, 1903, 110.

C[ampylorhynchus] brachyurus GRAY, Gen. Birds, iii, 1849, App. p. 7.

F[ormicarius] brachyurus GRAY, Gen. Birds, i, 1846, 211.

Cinclocerthia brachyura SCLATER, Proc. Zool. Soc. Lond., 1855, 214, in text.

[*Cinclocerthia*] *brachyurus* GRAY, Hand-list, i, 1869, 264, no. 3856, part (Martinique; Guadeloupe ?).

Petrodroma mexicana LESSON, Ann. Sci. Nat., 2d ser., ix, 1838, 168 ("Vera Cruz")

Legriocinclus mexicanus LESSON, Descr. Mamm. et Ois., 1847, 278.

(?) *Z[oothera]cinclops* BONAPARTE, Consp. Av., i, 1850, 253 (locality unknown; coll. Leyden Museum).

RAMPHOCINCLUS SANCTÆ-LUCIÆ Cory.

SANTA LUCIA WHITE-BREASTED TREMBLER.

Similar to *R. brachyurus*, but larger and darker; the upper parts darker and more sooty brown (clove brown to dark seal brown), the sides and flanks similar

Adult male.—Length (skins), 190–222 (204); wing, 101–109 (105.2); tail, 77–87 (83.5); exposed culmen, 24.5–27 (26); tarsus, 32.5–34.5 (33.4); middle toe, 22–25 (23.3).[e]

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[a] F. A. Ober, on label.

[b] The legs and feet of *R. sanctæ-luciæ* are said by Semper to be dark green in life.

[c] Six specimens.

[d] Five specimens.

[e] Seven specimens.

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Adult female.—Length (skins), 200-222 (214); wing, 107–109 (107.7); tail, 85–90 (87.7); exposed culmen, 25–27 (25.7); tarsus, 33–35 (34.3); middle toe, 23–25 (23.7).[a]

Island of Santa Lucia, Lesser Antilles.

Rhamphocinclus brachyurus (not *Turdus brachyurus* Vieillot) SCLATER, Proc. Zool. Soc. Lond., 1859, 338, part (Santa Lucia); 1889, 395 (Santa Lucia); Proc. Zool. Soc. Lond., 1871, 268 (Santa Lucia).—SEMPER, Proc. Zool. Soc. Lond., 1872, 648 (Santa Lucia; habits).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 325, part (Santa Lucia).—CORY, Ibis, 1886, 475 (Santa Lucia).

[*Ramphocinclus*] *brachyurus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part (Santa Lucia).—CORY, List Birds West Ind., 1885, 6, part (Santa Lucia).

Ramphocinclus brachyurus CORY, Auk, iii, 1886, 16, part (Santa Lucia).

[*Cinclocerthia*] *brachyurus* GRAY, Hand-list, i, 1869, 264, no. 3856, part (Santa Lucia).

Rhamphocinclus sanctæ-luciæ Cory, Auk, iv, Apr., 1887, 94 (Santa Lucia, Lesser Antilles; coll. C. B. Cory); v, 1888, 157; Birds West Ind., 1889, 285.

Rhamphocinclus brachyurus santæ-luciæ CORY, Cat. West Ind. Birds, 1892, 19, 121, 133, 156.

[*Rhamphocinclus*] *sanctæ-luciæ* SHARPE, Hand-list, iv, 1903, 110.

Genus CINCLOCERTHIA Gray.

Stenorhynchus (not of Lamarck, 1819, Meigen, 1823, Latreille, 1825, nor Cuvier, 1826).—GOULD, Proc. Zool. Soc. Lond., 1835, 186. (Type, *S. ruficauda* Gould.)

Cinclocerthia GRAY, List Gen. Birds, 1840, 17. (Type, *Stenorhynchus ruficauda* Gould.)

L'Herminierus LESSON, Rev. Zool., vi, Nov., 1843, 325, in text. (Type, *H. guadelupensis* Lesson, = *Stenorhynchus ruficauda* Gould.)

Medium-sized to rather large Mimidæ (length about 200–250 mm.), with long, straight bill (exposed culmen at least as long as middle toe with claw, sometimes longer than tarsus), tail not longer than distance from bend of wing to tip of longest secondaries, rictal bristles indistinct or obsolete, and plain dull brown or grayish coloration.

Bill straight or nearly so, as long as or longer than head, about as broad as high, or slightly broader than high, at frontal antiæ; exposed culmen at least as long as middle toe with claw, sometimes (in *C. macrorhyncha*) longer than tarsus, gently convex or nearly straight for most of its length; gonys straight or very faintly convex, slightly ascending terminally, its base slightly prominent; maxillary tomium straight for most of its length, distinctly notched subterminally. Nostril narrowly ovate or elliptical, margined above and behind by membrane. Rictal bristles obsolete, or very indistinct. Wing moderate or rather long, the longest primaries exceeding secondaries by much less than length of middle toe without claw; outermost (tenth) primary decidedly more than half as long as ninth (sometimes half as long as eighth), the ninth equal to third or intermediate

[a] Three specimens.

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between second and third, the seventh and sixth longest, but only slightly exceeding eighth and fifth. Tail as long as distance from bend of wing to end of longest secondaries, or slightly shorter, distinctly rounded (graduation less than half the length of middle toe with claw), the rectrices rather rigid, narrow, with somewhat tapering tips (at least the lateral ones, which are somewhat pointed). Tarsus less than one-third as long as wing, moderately stout, the acrotarsium more or less distinctly scutellate, but divisions sometimes obsolete;[a] middle toe (without claw) nearly three-fourths as long as tarsus; lateral toes nearly equal, but the outer rather the longer, both (without claw) reaching slightly beyond subterminal joint of middle toe; hallux shorter than inner toe but very much stouter; basal phalanx of middle toe united for basal half to outer toe, almost wholly free from inner toe; claws moderate or rather large, very strongly curved.

Coloration.—Upper parts plain brown (becoming rufescent posteriorly), grayish brown, or olive; under parts plain lighter brown, pale buffy, or whitish, shaded with grayish or olive on chest and sides.

Nidification.—Nest in bushes or trees, composed of twigs, grasses, etc., open above. Eggs said to be deep bluish green.

Range.—Lesser Antilles. (Three species and several subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF CINCLOCERTHIA.

a. General color decidedly rufescent brown, the remiges and rectrices russet or chestnut-brown. (*Cinclocerthia ruficauda.*)

b. Smaller (wing averaging not more than 98 in adult male, less than 92 in adult female; tail averaging less than 82 in male, less than 77 in female).

c. Paler, with chest browner. (Island of Dominica, Lesser Antilles.)
Cinclocerthia ruficauda ruficauda (p. 273)

cc. Darker, with chest grayer. (Island of St. Vincent, Lesser Antilles.)
Cinclocerthia ruficauda tenebrosa (p. 274)

bb. Larger (wing averaging more than 101 in adult male, more than 96 in adult female; tail averaging more than 88 in male, 83 or more in female).

c. Darker, with chest grayer. (Island of Guadeloupe, Lesser Antilles.)
Cinclocerthia ruficauda tremula (p. 274)

cc. Paler, with chest more tawny or ochreous. (Islands of St. Christopher, St. Eustatius, Saba, Montserrat, Nevis, and Barbuda, Lesser Antilles.)
Cinclocerthia ruficauda pavida (p. 275)

aa. General color grayish brown, including remiges and rectrices.

b. Chest pale buffy grayish, sides and flanks brownish buffy or light wood brown, neither distinctly contrasted with buff of abdomen. (Island of Santa Lucia, Lesser Antilles.).....**Cinclocerthia macrorhyncha** (p. 276)

bb. Chest brownish gray, sides and flanks grayish brown, both strongly contrasted with white of abdomen. (Island of Martinique, Lesser Antilles.)
Cinclocerthia gutturalis (p. 277)

[a] In a specimen of *C. macrorhyncha* I am not able, even with a magnifying lens, to discover more than the faintest suggestion of divisions to the acrotarsium, and these only along the front.

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CINCLOCERTHIA RUFICAUDA RUFICAUDA (Gould).

DOMINICAN TREMBLER.

Adults (*sexes alike*).—Pileum plain deep grayish brown, more grayish laterally, on superciliary region; hindneck similar but browner, the color gradually changing posteriorly through olive-brown on back and scapulars to rufous-brown or russet on upper tail-coverts; remiges and rectrices russet-brown or mars brown, the greater wing-coverts edged with the same; loral and postocular regions blackish; suborbital and auricular regions (except upper portion of latter) grayish olive-brown or brownish olive-gray, the former sometimes minutely barred with dusky; malar region similar but paler; chin and throat pale grayish buffy, this deepening on chest into grayish wood brown or isabella color, this fading into buffy wood brown or brownish buff on median portion of breast and abdomen; sides and flanks cinnamon-brown; under tail-coverts lighter, more buffy cinnamon; axillars and under wing-coverts plain buffy cinnamon or cinnamomeous wood brown; bill blackish, the lower basal portion of mandible, more or less extensively, paler; iris yellow; legs and feet light horn color (in dried skins).

Young.—Essentially like adults in coloration, but chest faintly spotted with dusky grayish, and texture of plumage more lax.

Adult male.—Length (skins), 205–230 (216); wing, 92-97 (94.6); tail, 78–81 (79.5); exposed culmen, 28–29 (28.2); tarsus, 28–29 (28.4); middle toe, 19–20 (19.5).[a]

Adult female.—Length (skins), 207–225 (215); wing, 88–95 (90.7); tail, 72-81 (76.5); exposed culmen, 31-35 (33.2); tarsus, 28; middle toe, 20–21 (20.5).[a]

Island of Dominica, Lesser Antilles.

Stenorhynchus ruficauda Gould, Proc. Zool. Soc. Lond:, 1835, 186 (locality unknown).[b]

Cinclocerthia ruficauda Gray, List Gen. Birds, 1840, 17.—Sclater, Proc. Zool. Soc. Lond., 1859, 338, part (in synonymy); 1889, 326 (Dominica); Cat. Am. Birds, 1862, 7, part (do.).—Sclater and Salvin, Exotic Orn., pt. ii, 1867, 19, part (in synonymy).—Lawrence, Proc. U. S. Nat. Mus., i, 1878, 52 (Dominica); i, 1879, 486, part (Dominica).—Sharpe, Cat. Birds Brit. Mus., vi, 1881, 323, part (Dominica).—Cory, Auk, iii, 1886, 17, part (Dominica); Birds West Ind., 1889, 31, part (do.); Cat. West Ind. Birds, 1892, 19, 120, part (do.).—Verrill, Trans. Conn. Acad. Sci., 1892, 343 (habits; song; descr. nest and eggs).

[a] Four specimens.

[b] Not only was the locality unknown to Gould, but the type, according to Doctor Sclater, has been lost. I have, therefore, somewhat arbitrarily, restricted the name to the form inhabiting the island of Dominica, a decision which has been to a great extent prompted by the fact that the bird from that island seems to agree more closely with the description than do those from other islands.

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C[inclocerthia] *ruficauda* GRAY, Gen. Birds, i, 1846, 134, part.

[*Cinclocerthia*] *ruficauda* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part.—CORY, List Birds West Ind., 1885, 6, part (Dominica).—SHARPE, Hand-list, iv, 1903, 109, part (Dominica).

CINCLOCERTHIA RUFICAUDA TENEBROSA Ridgway.

ST. VINCENT TREMBLER.

Similar to *C. r. ruficauda*, but much darker above, the pileum deep sooty gray, the back sooty brown, the remiges and rectrices chestnut-brown; under parts with chest more strongly and extensively suffused with grayish.

Adult male.—Length (skin), 225; wing, 98; tail, 81.5; exposed culmen, 29; tarsus, 28; middle toe, 21.[a]

Adult female.—Length (skins), 201–216 (209); wing, 88.5–97 (91.8); tail 70–84 (76.7); exposed culmen, 27.5–36 (31.8); tarsus, 28–28.5 (28.2); middle toe, 21–22.5 (21.7).[b]

Island of St. Vincent, Lesser Antilles.

Cinclocerthia ruficauda (not *Stenorhynchus ruficauda* Gould) LISTER, Ibis, 1880, 39 (St. Vincent).—SCLATER, Ibis, 1880, 72 (St. Vincent; crit.).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 187 (St. Vincent); 1879, 486, part (St. Vincent).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 323, part (St. Vincent).—CORY, Ibis, 1886, 472 (St. Vincent); Cat. West Ind. Birds, 1892, 19, 120, part (St. Vincent).

[*Cinclocerthia*] *ruficauda* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part.—SHARPE, Hand-list, iv, 1903, 109, part (St. Vincent).

Cinclocerthia ruficauda tenebrosa RIDGWAY, Smithsonian Misc. Coll. (quarterly issue), xlvii, Aug. 6, 1904, 112 (St. Vincent, Lesser Antilles; coll. U. S. Nat. Mus.).

CINCLOCERTHIA RUFICAUDA TREMULA (Lafresnaye).

GUADELOUPE TREMBLER.

Similar in coloration to *C. r. tenebrosa*, but much larger.

Adult male.—Length (skins), 210–252 (231.5); wing, 97–104 (101.2); tail, 85–91.5 (88.6); exposed culmen, 30–36 (32.3); tarsus, 30–31.5 (30.4); middle toe, 21–22 (21.4).[c]

Adult female.—Length (skins), 217–225 (221); wing, 97–99 (98); tail, 87–90 (88.5); exposed culmen, 33–34 (33.5); tarsus, 30.5–31.5 (31); middle toe, 21.5–22 (21.7).[d]

Island of Guadeloupe[e] (including Grande Terre), Lesser Antilles.

R[amphocinclus] tremulus LAFRESNAYE, Rev. Zool., 1843, 67 (Guadeloupe, Lesser Antilles).—SCLATER, Proc. Zool. Soc. Lond., 1855, 214, in text (crit.).

F[ormicarius] tremulus GRAY, Gen. Birds, i, 1846, 211.

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[a] One specimen.

[b] Three specimens.

[c] Four specimens.

[d] Two specimens.

[e] Specimens from Grand Terre not seen by me.

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Herminierus guadelupensis LESSON, Rev. Zool., 1843, 325 (Guadeloupe; = *Ramphocinclus tremulus* Lafresnaye).[a]

Herminierus infustus LESSON, Rev. Zool., 1843, 325, in text (Guadeloupe).[a]

Thriothorus Herminieri LESSON, Rev. Zool., 1843, 326, in text (Guadeloupe).[a]

Cinclocerthia ruficauda (not *Stenorhynchus ruficauda* Gould) SCLATER, Proc. Zool. Soc. Lond., 1855, 214, part (Guadeloupe); 1859, 338, part (Gaudeloupe). Cat. Am. Birds, 1862, 7, excl. syn. part (Guadeloupe).—SCLATER and SALVIN, Exotic Orn., pt. ii, 1867, 19, part (Guadeloupe).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1879, 453 (Guadeloupe), 486, part (Guadeloupe).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 323, part (Guadeloupe).—CORY, Ibis, 1886, 474 (Grand Terre); Auk, iii, 1886, 17, part (Guadeloupe); viii, 1891, 49 (Guadeloupe); Birds West Ind., 1889, 31, part (do.); Cat. West Ind. Birds, 1892, 19, 120, part (Guadeloupe).

[*Cinclocerthia*] *ruficauda* GRAY, Hand-list, i, 1869, 263, no. 3853, part (Guadeloupe).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part.—CORY, List Birds West Ind., 1885, 6, part (Guadeloupe).—SHARPE, Hand-list, iv, 1903, 109, part (Guadeloupe).

CINCLOCERTHIA RUFICAUDA PAVIDA Ridgway.

ST. CHRISTOPHER TREMBLER.

Similar in coloration to *C. r. ruficauda*, but much larger (size of *C. r. tremula*).

Adult male.—Length (skins), 220–250 (233); wing, 97–105 (101.9); tail, 85–95 (91.3); exposed culmen, 29–31.5 (30.1); tarsus, 29.5–31 (30.5); middle toe, 21–22 (21.9).[b]

Adult female.—Length (skins), 220–222 (221); wing, 96–97 (96.5); tail, 82–84 (83); exposed culmen, 34–38 (36); tarsus, 30–30.5 (30.2); middle toe, 22.[c]

Islands of St. Christopher, St. Eustatius, Saba, Montserrat, Nevis,[c] and Barbuda,[d] Lesser Antilles.

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[a] These names are all admitted by Lesson to apply to the same bird as that previously designated *Ramphocinclus tremulus* by Lafresnaye, but he apparently claims priority because he had already described the species in manuscript. His eccentric action in giving the same bird three different names, in one article, is more difficult of explanation.

[b] Seven specimens.

[c] Two specimens.

[d] I have not seen a specimen from either Nevis or Barbuda, but these two islands being situated in the same group as the others named it is not likely the *Cinclocerthia* inhabiting them is different.

Specimens from different islands compare in measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from St. Christopher (average)	101.6	92	29.8	30.8	21.8
One adult male from Saba	100	87	31.5	29.5	22
One adult male (?) from St. Eustatius	105	92	30.5	30	22
FEMALES.					
One adult female from St. Christopher	97	84	34	30	22
One adult female (?) from Montserrat	96	82	38	30.5	22

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Cinclocerthia ruficauda (not *Stenorhynchus ruficauda* Gould) SCLATER, Proc. Zool. Soc. Lond., 1855, 214, part (Nevis); 1859, 338, part (Nevis).—SCLATER and SALVIN, Exotic Orn., pt. ii, 1867, 19, part (Nevis).[a]—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 239 (Barbuda); i, 1879, 486, part (Barbuda).—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 323, part (Nevis; Barbuda).—GRISDALE, Ibis, 1882, 486 (Montserrat).—CORY, Auk, viii, 1891, 48 (St. Christopher); Cat. West Ind. Birds, 1892, 19, 120, part (St. Christopher; Barbuda; Montserrat).

[*Cinclocerthia*] *ruficauda* GRAY, Hand-list, i, 1869, 263, no. 3853, part (Nevis).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2, part.—SHARPE, Hand-list, iv, 1903, 109, part (Barbuda; Nevis).

Cinclocerthia ruficauda pavida RIDGWAY, Smithsonian Misc. Coll. (quarterly issue), xlvii, Aug. 6, 1904, 113 (St. Christopher, Lesser Antilles; coll. U. S. Nat. Mus.).

CINCLOCERTHIA MACRORHYNCHA Sclater.

SANTA LUCIA TREMBLER.

Adults (*sexes alike*).—Above plain grayish olive or slightly olivaceous hair brown, the pileum darker, the lower rump, upper tail-coverts, wings, and tail browner, the greater wing-coverts and remiges (sometimes rectrices also) with paler brownish indistinct edgings; loral, suborbital, and auricular regions dusky, the last sometimes with very indistinct narrow shaft-streaks of paler; malar region pale sooty grayish, the feathers more or less distinctly margined with rusty; under parts dull buffy whitish or pale grayish buffy, the under tail-coverts pale cinnamon or wood brown, the flanks tinged with the same, the sides tinged with olive-grayish; axillars and under wing-coverts pale grayish buff; bill blackish, the lower basal portion of mandible, more or less extensively, paler; iris yellow[b] or brown;[c] legs and feet clear horn color (in dried skins).[d]

Young.—Essentially like adults, but chest faintly spotted or mottled with grayish brown.

Adult male.—Length (skins), 215–238 (227); wing, 104–113 (107.4); tail, 79–90 (87); exposed culmen, 35–40 (37); tarsus, 30–31.5 (30.6); middle toe, 21.5–23 (22.7).[e]

Adult female.—Length (skins), 205–215 (210); wing, 100–104 (101.7); tail, 78.5–83 (81.5); exposed culmen, 34–39.5 (36.5); tarsus, 30–31 (30.5); middle toe, 22–23 (22.3).[f]

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[a] It is impossible to determine from the colored plate (pl. 10) in the Exotic Ornithology which form it is intended to represent, none of them having either the under parts or wings nearly so rufescent. Judging from the large size and especially the very long bill, however, it seems likely that the specimen (of unknown locality) from which the illustration was made was an example of the present subspecies.

[b] J. E. Semper and H. Selwyn Branch.

[c] W. W. Brown, jr., on label.

[d] Said by Semper to be "dark green in life."

[e] Four specimens.

[f] Three specimens.

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Island of Santa Lucia, Lesser Antilles.

Cinclocerthia macrorhyncha SCLATER, Proc. Zool. Soc. Lond., 1866, 320 (Santa Lucia, Lesser Antilles; coll. Paris Mus.); 1889, 395, (Santa Lucia).—SCLATER and SLAVIN, Exotic Orn., pt. ii, 1867, 21, pl. 11.—SCLATER, Proc. Zool. Soc. Lond., 1871, 268; 1889, 395.—SEMPER, Proc. Zool. Soc. Lond., 1872, 648 (habits).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 325.—CORY, Ibis, 1886, 475; Auk, iii, 1886, 17; Birds West Ind., 1889, 31; Cat. West Ind. Birds, 1892, 19, 120, 133.

[*Cinclocerthia*] *macrorhyncha* GRAY, Hand-list, i, 1869, 263, no. 3855.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List. Birds West Ind., 1885, 6.—SHARPE, Hand-list, iv, 1903, 109.

CINCLOCERTHIA GUTTURALIS (Lafresnaye).

GRAY-BREASTED TREMBLER.

Adults (*sexes alike*).—Above plain deep grayish brown, darker (nearly clove brown) on pileum, paler and browner or more olivaceous on rump and upper tail-coverts; sides of head similar in color to pileum, but malar region mostly dull whitish; chin, throat, median portion of breast, and abdomen dull white, or buffy white; sides of neck, chest, upper and lateral portions of breast, sides, flanks, and thighs, plain brownish gray or grayish brown, similar to but decidedly paler than color of upper parts, the flanks more decidedly brown or olivaceous; under tail-coverts grayish brown, more or less broadly or distinctly margined with whitish; axillars and under wing-coverts pale brownish gray or grayish brown; bill black, the lower basal portion of mandible, more or less extensively, paler; legs and feet horn color (in dried skins).

Young.—Essentially like adults, but upper parts slightly browner, chest indistinctly spotted or mottled with grayish brown, and greater wing-coverts and remiges indistinctly edged with light brown.

Adult male.—Length (skins), 220–230 (225); wing, 103–112 (108.2); tail, 81–96 (88.5); exposed culmen, 28.5–33 (30.4); tarsus, 30.5–33 (31.7); middle toe, 22.5–25 (23.4).[a]

Adult female.—Length (skins), 215–228 (221.5); wing, 108–109 (108.5); tail, 85–89 (87); exposed culmen, 29–34 (31.5); tarsus, 30.5–31.5 (31); middle toe, 23.[b]

Island of Martinique, Lesser Antilles.

R[amphocinclus] gutturalis LAFRESNAYE, Rev. Zool., vi, Mar., 1843, 67 ("Antilles").
Ramphocinclus gutturalis BONAPARTE, Consp. Av., i, 1850, 223.
F[ormicarius] gutturalis GRAY, Gen. Birds, i, 1846, 211.
Campylorhynchus gutturalis GRAY, Gen. Birds, iii, 1849, App., p. 7.
Cinclocerthia gutturalis SCLATER, Proc. Zool. Soc. Lond., 1855, 214, in text; 1859, 338 (monogr.).—SCLATER and SALVIN, Exotic Orn., pt. 2, 1867, 23, pl. 12.—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 351 (habits), 486.—SHARPE, Cat. Birds Brit. Mus., vi, 1881, 324.—CORY, Auk, iii, 1886, 18; iv, 1887, 95; Birds West Ind., 1889, 32; Cat. West Ind. Birds, 1892, 19, 120, 133 (Martinique).

[a] Four specimens. [b] Two specimens.

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[*Cinclocerthia*] *gutturalis* GRAY, Hand-list, i, 1869, 263, no. 3854.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 2.—CORY, List Birds West Ind., 1885, 6.—SHARPE, Hand-list, iv, 1903, 109.

Genus CALYPTOPHILUS Cory.

Calyptophilus [a] CORY, Auk, i, Jan., 1884, 3. (Type, *Phœnicophilus frugivorus* Cory.)

Small Mimidæ? (length about 190 mm.) with much compressed, conoid or subcuneate bill, no rictal bristles, very large outermost primary (nearly as long as longest secondaries), very broad tarsi, and with yellow axillars and carpus.

Bill much shorter than head, very much compressed (depth at frontal antiæ very much greater than its width at same point), elongate-conoid or subcuneate in lateral profile; exposed culmen equal to middle toe without claw or slightly longer, slightly decurved terminally; gonys straight or just appreciably convex, ascending terminally, its base nearly on line with anterior end of nasal fossæ; maxillary tomium nearly straight for most of its length, distinctly notched subterminally. Nostril rather small, broadly ovoid, with broad membrane above and narrow, wedge-shaped membrane below, posteriorly in contact with erect feathering of frontal antiæ. Rictal bristles wanting. Wing rather large, rounded, the longest primaries exceeding longest secondaries by less than distance from nostril to tip of maxilla; outermost (tenth) primary very large, nearly as long as longest secondaries, the ninth only about 10 mm. longer and about equal to fourth, the eighth, seventh, sixth, and fifth longest and nearly equal. Tail about equal to wing or slightly shorter, graduated (graduation about equal to length of middle toe without claw), the rectrices rather narrow, tapering somewhat at tip. Tarsus a little more than one-third as long as wing, very broad (its width at middle equal to about one-eighth its length), the acrotarsium distinctly scutellate; middle toe (without claw) two-thirds as long as tarsus; lateral toes unequal, the inner reaching to, or very slightly beyond, the subterminal joint of middle toe, the outer distinctly beyond; hallux as long as inner toe, much stouter; basal phalanx of middle toe united for more than half its length to outer toe, nearly half its length to inner toe; claws normal in size and curvature.

Coloration.—Above plain olive, more grayish on head; beneath white, the sides, flanks, and under tail-coverts light olive; axillars, edge of wing, and loral spot yellow.

Nidification.—(Unknown.)

Range.—Island of Haiti, Greater Antilles. (Monotypic.)

[a] "Καλυπτος, φιλέω."

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CALYPTOPHILUS FRUGIVORUS (Cory).

CHAT-THRASHER.

Adults (*sexes alike*).—Pileum and hindneck dark slaty olive, the feathers indistinctly darker centrally, producing very indistinct small elongated spots; sides of head, down to upper margin of malar region, similar but lighter and grayer, especially the superciliary region; lores largely yellow anteriorly or centrally, producing a more or less extensive spot, more or less broken by small dusky specks; posterior portion of upper eyelid yellow or yellowish white; back, scapulars, rump, upper tail-coverts, wings, and tail plain olive, the remiges sometimes slightly more brownish, the lesser wing-coverts inclining to olive-green; edge of wing, under wing-coverts, and axillars canary yellow; under parts (including malar region) white, passing into light grayish olive on sides, flanks, and under tail-coverts, the latter margined, more or less broadly, with white, brownish white, or pale fulvous; maxilla blackish brown, paler on tomia; mandible light horn color in dried skins (bluish gray in life ?); legs and feet light horn brownish (in dried skins).

Adult male.—Length (skins), 184–194 (189); wing, 84–94.5 (89.2); tail, 81.5–88.5 (85); exposed culmen, 20.5; tarsus, 27–28.5 (27.7); middle toe, 18.5.[a]

Adult female.—Length (skins), 170–185.5 (178); wing, 80.5–82.5 (81.2); tail, 72–80 (76.5); exposed culmen, 19.5–20.5 (20); tarsus, 27–28 (27–3); middle toe, 17.5–19.5 (18.3).[b]

Island of Haiti, Greater Antilles.

Phœnicophilus frugivorus Cory, Quart. Journ. Bost. Zool. Soc., ii, no. 4, Oct., 1883, 45 (Santo Domingo; coll. C. B. Cory).

Calyptophilus frugivorus Cory, Auk, i, Jan., 1884, 3; iii, 1886, 201; Birds Haiti and San Dom., 1885, 59, pl. (9); Birds West Ind., 1889, 88; Cat. West Ind. Birds, 1892, 16, 114, 131.—Sclater, Cat. Birds Brit. Mus., xi, 1886, 235.—Cherrie, Pub. 10, Field Columb. Mus., Orn. Ser., i, no. 1, 1896, 14 (Aguacate, Santo Domingo).—Christy, Ibis, 1897, 323 (La Vega, Santo Domingo).

[*Calyptophilus*] *frugivorus* Cory, List Birds West Ind., 1885, 12; revised ed., 1886, 12.

Family STURNIDÆ.

THE STARLINGS.

Ten-primaried Acutiplantar Oscines, with the tenth (outermost) primary rudimentary, acuminate; nostrils nearer to tomium than to culmen, overhung by a conspicuous, somewhat tumid, sometimes feathered, operculum; wing long, usually pointed (ninth primary longest in typical genera), but with tip falling short of tip of tail.

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[a] Two specimens. [b] Three specimens.

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The following characters are given by Oates, in "The Fauna of British India:"[a]

The intrinsic muscles of the syrinx fixed to the ends of the bronchial semi-rings; the edges of both mandibles smooth, or the upper one simply notched; hinder aspect of tarsus bilaminated, the laminæ entire and smooth; wing with ten primaries; nostrils always clear of the line of the forehead, the space between the nostril and the edge of the mandible less than the space between the nostril and the culmen; plumage of the nestling typically streaked; no rictal bristles nor vestige of any; sexes alike or very nearly so; rectrices twelve; first primary minute; one moult in the year.

Notwithstanding Oates' statement that "the Sturnidæ or the Starlings and Mynas, as restricted in this work, form one of the best defined families of the Passeres," one searches in vain in the diagnosis which he gives for characters which would support this statement. On the other hand, the diagnosis above quoted is identical, almost word for word, with that given for the "Eulabetidæ," on page 509 of the same work, except as to the rictal bristles, which are said to be "present" in the Eulabetidæ, while in the Sturnidæ there are "no rictal bristles nor vestige of any"—certainly a very slight distinction.

It may be further remarked that the young of the Sturnidæ are not always streaked, while in those that are most so the streaking is confined to the under parts and is not by any means conspicuous.

The Starlings are an exclusively Old World group, a single species only being included in the North American list as a purely accidental straggler from Europe to Greenland and as an introduced species, apparently naturalized in the vicinity of New York City and perhaps in other localities in the eastern United States.

There are recognized in the Catalogue of Birds in the British Museum,[b] forty genera and about one hundred and fifty species of the subfamily Sturninæ, the geographic range of which, as indicated by the genera, is as follows:

	Genera.
Occurring in the Palæarctic Region (as a whole)	2
Occurring in the Ethiopian Region	14
Occurring in the Indian Region (either as a whole or in the Indo-Chinese or Indo-Malayan Subregions)	12
Occurring in the Papuan Subregion (Australian Region)	5

Genera of more restricted range occur as follows: Confined to western Polynesia, 1 genus; to Celebes, 4; Philippines, 1; Sula, and the Moluccas, 1; extreme eastern Palæarctic Region, 2; while one genus is peculiar to each one of the following limited areas: Palestine, Madagascar, Réunion, and Rodriguez.

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[a] Birds, i, 1889, p. 516.

[b] Vol. xiii, Sturniformes, containing the Families Artamidæ, Sturnidæ, Ploceidæ, and Alaudidæ; also the Pseudoscines (Atrichiidæ and Menuridæ). By R. Bowdler Sharpe, London: 1890.

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Genus STURNUS Linnæus.

Sturnus LINNÆUS, Syst. Nat., ed. 10, i, 1758, 167. (Type, by elimination, *S. vulgaris* Linnæus.)

Bill elongate-conical, much depressed, especially toward tip, with nearly straight outlines; culmen flattened, about three-fourths as long as tarsus; base of gonys decidedly anterior to anterior end of nostril; nostril wholly exposed, longitudinal, overhung by a conspicuous, somewhat tumid and wholly unfeathered, operculum. Wing long (about four and a half times as long as tarsus), pointed, the tenth (outermost) primary rudimentary and acuminate, ninth longest, the rest rapidly graduated in length from the eighth; primaries exceeding longest secondaries by much more than length of tarsus. Tail about half as long as wing, even or very slightly emarginated. Feathers of head, neck, chest, and breast narrow, elongate, those of the under parts acuminate; plumage of adults more or less metallic.

Six species, with three additional subspecies, are recognized in the British Museum catalogue, all of them belonging to the Palæarctic or Indian regions of the Eastern Hemisphere.

STURNUS VULGARIS Linnæus.

STARLING.

Adult male in summer.—General color glossy black, the head and neck glossed with purple, the wing-coverts with blue or violet, other parts (including auricular region) with green, becoming bluish, or even sometimes violet, on posterior under parts; feathers of occiput, hindneck, back, scapulars, and rump tipped with pale brown, producing conspicuous, more or less triangular, specks, the lesser, middle, and greater wing-coverts, primary-coverts, remiges, rectrices, and upper tail-coverts margined with the same; feathers of under parts of the body tipped with white, forming narrow wedge-shaped or sagittate spots, growing gradually larger posteriorly, the under tail-coverts broadly margined with brownish white; tertials, primaries, and rectrices with a more or less extensive central area of brownish gray, bounded by a submarginal border of dull black; bill yellowish, with the sides of the mandibular rami dusky; iris brown; legs and feet brownish.

Adult male in winter.—Similar to the summer plumage, but the brown tips to the feathers of the upper part more extensive as well as deeper in color, the white tips to feathers of the lower parts also larger, and the bill dusky.

Adult female.—Similar to the male, with the same seasonal differences, but slightly smaller and duller in coloration.

Young in first winter.—Similar to winter adults, but the brown tips to feathers of upper parts and white tips to those of the lower surface

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much more extensive, the whole head and throat being thus spotted, and the spots almost confluent on the abdomen.

Young in first plumage.—Above plain grayish brown (hair brown), with narrow whitish margins to larger wing-coverts, remiges, and rectrices; beneath similar, but paler, with the chin and upper throat whitish, and the abdomen broadly streaked with white.

Adult male.—Length (skins), 190–224 (201); wing, 125.2–131.8 (129); tail, 62.2–64.8 (63.5); exposed culmen, 25.4–25.9 (25.6); depth of bill at base (two specimens), 9.1; tarsus, 29.7–30 (29.9); middle toe, 22.1–24.1 (22.9).[a]

Adult female.—Length (skins), 181–200 (193); wing, 124.7–127.5 (125.7); tail, 56.6–62.2 (59.2); exposed culmen, 23.1–26.4 (24.6); depth of bill at base (one specimen), 9.9; tarsus, 27.9–29.7 (29); middle toe, 21.3–22.9 (22.1).[b]

Western and central Europe; accidental in Greenland; introduced into and partly naturalized in the eastern United States (vicinity of New York City, etc.).

[*Sturnus*] *vulgaris* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 167; ed. 12, i, 1766, 290.—GMELIN, Syst. Nat., i, 1788, 801.—LATHAM, Index Orn., i, 1790, 321.—GRAY, Hand-list, ii, 1870, 21, no. 6306.

Sturnus vulgaris TEMMINCK, Man. d'Orn., i, 1820, 132.—NAUMANN, Vög. Deutschl., ii, 1822, 187, pl. 62; Vög. Deutschl., Anhang, 1860, pl. 351, fig. 2.—ROWE, Orn. Prov., 1825, pl. 128.—PALLAS, Zoogr. Rosso-Asiat., i, 1826, 418, part.—WERNER, Atl., Omnivores, 1827, pl. 19.—GOULD, Birds Europe, iii, 1837, pl. 210; Birds Gt. Brit., iii, 1868, pls. 53, 54 (adult), pl. 74 (young).—BONAPARTE, Geog. and Comp. List, 1838, 28.—SCHLEGEL and SUSEM, Vog. Eur., 1840, pl. 20.—KEYSERLING and BLASIUS, Wirb. Eur., 1840, 170.—YARRELL, Hist. Brit. Birds, ii, 1843, 43; ed. 3, ii, 1856, 44.—SCHLEGEL, Rev. Crit., 1844, p. lvii; Vog. Nederl., 1859, 284, pl. 145; Dier. Nederl., Vog., 1861, pl. 14, fig. 5.—KJAERBOLLING, Danm. Fugle, 1852, pl. 12, fig. 4; Suppl., 1858, pl. 5, figs. 1, 2.—REINHARDT, Journ. für Orn., 1854, 425, 439 (Greenland); Ibis, 1861, 7 (do.).—SUNDEVALL, Sv. Fogl., 1856, pl. 18, figs. 5, 6.—GRAY, List Brit. Birds, 1863, 91.—DEGLAND and GERBE, Orn. Eur., i, 1867, 233.—KEULEMANS, Onze Vog., i, 1869, pl. 29.—FRITSCH, Vög. Eur., 1870, pl. 27, figs. 1, 3.—HARTING, Handb. Brit. Birds, 1872, 30.—STEJNEGER, Journ. für Orn., 1873, 304 (Norway).—DRESSER, Birds Europe, iv, 1874, pls. 246, 247.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 229, pl. 35, fig. 8.—NEWTON, Man. Nat. Hist. Greenl., 1875, 99 (Greenland, 1 spec.); ed. Yarrell's Hist. Brit. Birds, ii, 1877, 228.—DUBOIS, Vertebr. Fauna Belg., Ois., 1878, pl. 66.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 279.—COUES, Check List, 2d ed., 1882, no. 363.—CABANIS, Journ. für Orn., 1882, 233 (Labrador; Greenland).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 65.—SEEBOHM, Hist. Brit. Birds, ii, 1884, 12.—DIXON, Ibis, 1885, 82 (St. Kilda, breeding; habits).—REID, Ibis, 1885, 245 (Morocco).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 493.—KOENIG, Journ. für Orn., 1890, 354 (Canary Islands).—SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 27.—BLAGG, Ibis, 1893, 352 (Shetland Islands, breeding).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 427.—KNIGHT, Bull. No. 3, Univ. Maine, 1897, 85 (Calais,

[a] Five specimens. [b] Three specimens.

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Maine, 1 spec., May 4, 1889).—Braislin, Auk, xv, 1898, 55 (Brooklyn, New York, breeding); xvi, 1899, 192 (Brooklyn, etc.).—Morris, Auk, xvi, 1899, 85 (Springfield, Massachusetts; 100 liberated).—Bishop, Auk, xviii, 1901, 194 (North Haven, Connecticut, 1 spec., Dec. 3, 1900).

S[turnus] vulgaris Gray, Gen. Birds, ii, 1847, 337.—Bonaparte, Consp. Av., i, 1850, 421.—Coues, Key N. Am. Birds, 2d ed., 1884, 427; 5th ed., i, 1903, 503, pl. 1 and fig. 3.—Ridgway, Man. N. Am. Birds, 1887, 365.

St[urnus] vulgaris Cabanis, Mus. Hein., i, 1851, 202 (Germany).

Sturnus vulgaris vulgaris Hartert, Vog. Palaearkt. Fauna, i, Nov., 1903, 4 (monogr.).—Schalow, Vogel der Arktis, 1904, 243 (e. and w. Greenland).

Sturnus varius Meyer, Taschenb. Vög. Deutschl., i, 1810, 208.—Brehm, Lehrb. Eur. Vög., i, 1823, 282.

Turdus solitarius Montague, Orn. Dict., Suppl., art Thrush, 1813.

Sturnus solitarius Leach, Syst. Cat. Mam., etc., Brit. Mus., 1816, 18.

Sturnus domesticus Brehm, Isis, 1828, 1282.

Sternus nitens Brehm, Isis, 1828, 1282.

Sturnus punctatus Brehm, Isis, 1828, 1282.

Sturnus sylvestris Brehm, Vög. Deutschl., 1831, 398.

Sturnus septentrionalis Brehm, Vög. Deutschl., 1831, 400.

Sturnus hollandiæ Brehm, Vög. Deutschl., 1831, 1016.

Sturnus guttatus Macgillivray, Hist. Brit. Birds, i, 1837, 595.

Sturnus longirostris Brehm, Naumannia, 1855, 282.

Sturnus tenuirostris Brehm, Naumannia, 1855, 282.

Sturnus europæus Blasius, Journ. für Orn., 1863, Nachtr., p. 60.

(?) *Sturnus faeroensis* Fielden, Birds of the Faeroe Islands, 1872, 47.—Grummack, Journ. für Orn., 1876, 216.—Seebohm, Ibis, 1880, 133.

Family PLOCEIDÆ.

THE WEAVER BIRDS.

Ten-primaried, conirostral, Acutiplantar Oscines with the tenth (outermost) primary obviously present but small or rudimentary. (Otherwise very closely resembling the Fringillidæ and Icteridæ.)

Whether the single character of possessing one more obvious primary quill than the Fringillidæ and Icteridæ be considered as sufficient to warrant the separation of the present group as a distinct family is perhaps a matter admitting of difference of opinion, but is one regarding which I prefer not to commit myself at present, having neither the material nor opportunity for sufficient consideration of the question. Certain it is that the so-called Ploceidæ resemble so closely in general appearance, both as to external structure and coloration, the true Fringillidæ or Icteridæ that were it not for the difference in the number of developed primaries no one, probably, would for a moment think of separating them. The range of variation in form, colors, and habits is nearly as great as in the Fringillidæ and Icteridæ, although terrestrial forms are apparently wanting. Many, notably the wax-bills (genera *Estrilda*, *Lagonosticta*, etc.), the weaver-finches (genera *Munia*, *Sporæginthus*, *Spermestes*, etc.), and the so-called Java Sparrow (*Padda oryzivora*) are conspicuously finch-like in appearance. Others, again, especially among the African

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forms, are strikingly icterine in form and coloration, some resembling the hang-nests or American Orioles (genus *Icterus*), while certain genera recall the red-wings (genus *Agelaius*), having the same uniform black plumage, relieved by a conspicuous crimson or scarlet "shoulder" patch similarly bordered behind by a band of white or buff.

The Ploceidæ are peculiar to the warmer parts of the Eastern Hemisphere, where they are confined to the African, Madagascaran, Indo-Malayan, and Australian regions, being most developed in the first named, where, alone, the forms of icterine appearance occur. Two species have been introduced into the Antillean island of Porto Rico, where they have become naturalized, thus necessitating a notice of the family in the present work.

Two "subfamilies" are recognized by the latest authority on the group.[a] These are said to differ in the relative development of the "first" (i. e. tenth) primary as follows:

KEY TO THE "SUBFAMILIES" OF PLOCEIDÆ.

a. "First" primary "large, generally obtuse at the end, and extending beyond the primary-coverts" ..... **Ploceinæ.**

aa. "First" primary" very small and falcate, attenuated toward the end . . . never reaching beyond the primary coverts, and generally falling conspicuously short of the latter" ..... **Viduinæ.**

The two species which have been introduced into Porto Rico belong to the "Viduinæ," and represent different genera which may be distinguished as follows:

KEY TO THE AMERICAN (INTRODUCED) GENERA OF VIDUINÆ.

a. Tail slightly graduated, the difference in length between outermost and middle rectrices less than length of exposed culmen ..... **Spermestes** (p. 284)

aa. Tail much graduated, the difference in length between outermost and middle rectrices much greater than length of exposed culmen ..... **Estrilda** (p. 286)

Genus SPERMESTES Swainson.

Spermestes SWAINSON, Birds West Africa, i, 1837, 201. (Type, *S. cucullata* Swainson.)

Lepidopygia (not *Lepidopyga* Reichenbach, 1855) REICHENBACH, Singvögel, 1851, 48. (Type, *Pyrrhula nana* Pucheran.)

Bill stout, conical, with culmen broad and flattened basally, where forming a broad and deep angle between the frontal antiæ; exposed culmen shorter than middle toe without claw; width of maxilla between nostrils much greater than its depth; gonys straight, longer than mandibular rami; maxillary tomium more or less strongly sinuated, without subterminal notch; mandible acute at tip, its tomium strongly arched subbasally, strongly deflexed at

[a] Dr. R. Bowdler Sharpe, in Cat. Birds Brit. Mus., vol. xiii, 1890, pp. 198–511.

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base. Nostril small, roundish, occupying the very narrow space between anterior end of nasal fossæ and loral or latero-frontal antiæ. Rictal bristles obsolete. Wing moderate, rather pointed (ninth and eighth, or ninth, eighth, and seventh primaries longest), the tenth (outermost) very minute. Tail much shorter than distance from bend of wing to end of secondaries, rounded or slightly graduated. Tarsus less than one-third as long as wing, the acrotarsium distinctly scutellate; middle toe (without claw) shorter than tarsus; inner toe reaching to subterminal joint of middle toe, the outer slightly but decidedly longer; hallux about as long as outer toe; claws slender, moderately curved, acute.

Coloration (*of typical species*).—Head, throat, and chest glossy black or dusky; back, etc., plain glossy black, brown, or chestnut; tail black; under parts of body white, the sides and flanks brown or black, with white bars or spots.

Range.—Africa and Madagascar. (One species introduced into and naturalized in Porto Rico.)

SPERMESTES CUCULLATA (Swainson).

HOODED WEAVER-FINCH.

Adult male.—Anterior half, or more, of head, throat, and chest plain sooty black, glossed with purplish violet, more greenish purple or bronzy on forehead; hindneck, sides of neck, back, upper rump, and wings, plain grayish brown; lower rump and upper tail-coverts dull white barred with dusky grayish brown; tail black; a patch of blackish, glossed with purple or bronzy, on posterior portion of scapular region; primaries very narrowly edged or serrated with pale gray or whitish; under parts of body white, the flanks broadly barred with dusky grayish brown, the sides with a large patch of blackish glossed with bronzy greenish; under tail-coverts white, with V-shaped or U-shaped marks of dusky grayish brown; under wing-coverts buffy white; bill dusky (partly bluish gray in life?); legs and feet grayish dusky (in dried skins); length, about 82; wing, 48; tail, about 30[a]; exposed culmen, 10.5; tarsus, 12; middle toe, 11.

Adult female.—"Similar to the male, but rather browner; the scapulars brown with glossy green tips."[b]

Young.—Above plain brown (between broccoli brown and bistre), darker (more sepia) on head, paler on rump and upper tail-coverts, which are very indistinctly barred with darker; chin and throat pale broccoli brown or drab; rest of under parts pale cinnamon, the under tail-coverts indistinctly barred with dusky.

Introduced into and naturalized in Porto Rico. Native of equatorial and western Africa, from Senegambia to the Kongo.

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[a] The tail of the single specimen examined is not fully grown out.

[b] Sharpe, Cat. Birds Brit. Mus., xiii, 264.

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Loxia cucullata SWAINSON, Zool. Illustr., 1820, pl. 7.

Spermestes cucullata SWAINSON, Birds West Afr., i, 1837, 201.—MÜLLER, Descr. Nouv. Ois. Afr., pt. iv, 1854, pl. 16. HARTLAUB, Orn. West-Afr., 1857, 147; Journ. für Orn., 1861, 259; Abh. nat. Ver. Bremen, viii, 1883, 202.—CASSIN, Proc. Ac. Nat. Sci. Philad., 1859, 138.—DOHRN, Proc. Zool. Soc. Lond., 1866, 329.—SUNDEVALL, Œfv. k. Vet Ak. Förh., 1869, 597.—KEULEMANS, Onze Vog., i, 1869, pl. 43.—SHARPE, Ibis, 1869, 192; Cat. Afr. Birds, 1871, 64, part; Cat. Birds Brit. Mus., xiii, 1890, 264.—SHELLEY and BUCKLEY, Ibis, 1872, 289.—USSHER, Ibis, 1874, 69.—REICHENOW, Journ. für Orn., 1875, 42.—SHARPE and BOUVIER, Bull. Soc. Zool. France, i, 1875, 49.—OUSTALET, Nouv. Arch. Mus. (2) ii, 1879, Bull., p. 111.—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 121, in text (Porto Rico).—PELZELN, Zool.-bot. Ges. Wien, xxxi, 1881, 152.—FORBES, Ibis, 1883, 505, 508, 517.—SHELLEY, Ibis, 1883, 553; 1886, 309, part.—BÜTTIKOFER Notes Leyden Mus., viii, 1886, 261.—HARTERT, Journ. für Orn., 1886, 584 (Porto Rico; introduced).

Sp[ermestes] cucullata CABANIS, Mus. Hein. i, 1853, 173 (Senegal).—REICHENBACH, Singvögel, 1861, 37, pl. 13, figs. 114, 115.—HEUGLIN, Journ. für Orn., 1868, 1 (n. e. Africa, crit.).

[*Spermestes*] *cucullata* BONAPARTE, Consp. Av., i, 1850, 454.

Spermestes cucullatus GUNDLACH, Journ. für Orn., 1874, 312 (Porto Rico); 1878, 160, 174 (Porto Rico; habits); Anal. Soc. Esp. Hist. Nat., vii, 1878, 206 (Porto Rico; introduced).—CORY, Auk, iii, 1886, 214; Birds West Ind., 1889, 101; Cat. West Ind. Birds, 1892, 111.—BOWDISH, Auk, xx, 1903, 13 (Porto Rico; habits).

[*Spermestes*] *cucullatus* CORY, List West Ind. Birds, 1885, 13 (Porto Rico); revised ed., 1886, 13 (do.).

Amadĭna cucullata SUNDEVALL, Œfv. k. Vet.-Akad. Stockh., 1849, 159.

A[madĭna] cucullata GRAY, Gen. Birds ii, 1849, 370.

[*Amadina*] *cucullata* GRAY, Hand-list, ii, 1870, 54, no. 6746.

Loxia (*Spermestes*) *cucullata* BRYANT, Proc. Bost. Soc. N. H., x, 1866, 254 (Porto Rico).

Loxia prasipternon LESSON, Rev. Zool., 1839, 104.

Genus ESTRILDA Swainson.

Estrilda SWAINSON, Zool. Journ., iii, 1827, 349. (Type, *Loxia astrild* Linnæus.)

Estrelda (emendation) SWAINSON, Classif. Birds, ii, 1837, 280.

Habropyga CABANIS, Weigmann's Archiv. für Naturg., 1847, 331 (new name for *Estrilda* Swainson).

Sporaeginthus[a] CABANIS, Mus. Hein., i, August, 1851, 170. (Type, *Fringilla amandava* Linnæus.)

Uraeginthus[b] CABANIS, Mus. Hein., i, Aug., 1851, 171. (Type, *Fringilla bengalus* Linnæus.)

Amandava REICHENBACH, Singvögel, 1861, 15. (Type, *Amadina punctata* Blyth. = *Fringilla amandava* Linnæus.)

Melpoda REICHENBACH, Singvögel, 1861, 26. (Type, *Fringilla lippa* Reichenbach, = *F. melpoda* Vieillot.)

Mariposa REICHENBACH, Singvögel, 1861, 48. (Type, *Fringilla angolensis* Linnæus.)

Brunhilda REICHENBACH, Singvögel, 1861, 48. (Type, *Fringilla erythronotos* Vieillot.)

Haplopyga HEUGLIN, Orn. Nord Ost-Africa, App., 1871, p. cxxxvii. (Type, *Loxia astrild* Linnæus.)

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[a] "Von σπόρος, Same, und ἀιγινθος ὁ, nom. prop."

[b] "Von ζώνη, ἡ Gürtel, und ἀιγιθος, nom. prop."

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Very small, finch-like Ploceidæ with the outermost (tenth) primary minute (but little if any longer than the primary coverts), very narrow, pointed, and rigid; tail nearly as long as wing, much graduated (graduation about twice the length of exposed culmen), the lateral rectrices terminating at tips of longest under tail-coverts.

Bill about half as long as head, short-conical, its basal depth about equal to distance from maxilla to tip of nostril, its basal width decidedly less; culmen gently convex, rounded or very faintly ridged; gonys much shorter than maxilla from nostril, straight or very faintly convex; maxillary tomium with anterior half decidedly concave, the posterior half convex, the rictal portion deflected; mandibular tomium strongly convex. Nostril small, circular, or broadly oval and vertical, in anterior end of nasal fossæ immediately behind the bulging base of the rhinotheca, almost if not quite hidden by the feathering of the frontal antiæ. Wing (more than four times as long as culmen, about three times as long as tarsus or a little more), with rather short and rounded tip (primaries exceeding secondaries by more than length of culmen); tenth primary minute (but little if any exceeding primary coverts), very narrow, pointed, rather rigid; ninth primary nearly or quite equal to fifth, the eighth and seventh longest, with sixth but little shorter. Tail nearly as long as wing, much graduated, the tips of the lateral rectrices reaching to about tips of longest under tail-coverts, and shorter than the middle pair by nearly twice the length of culmen. Tarsus about twice as long as maxilla from nostril, or slightly more, slender, the anterior scutella fairly distinct; middle toe, with claw, about equal to tarsus or slightly longer; outer toe with claw reaching to base of middle claw, the inner shorter; hallux equal to or slightly longer than outer toe, much stouter, its claw about equal to or slightly shorter than the digit; claws rather slender, rather strongly curved.

Coloration.—Plain brownish above, grayish beneath; adult male with pileum dark gray, sides of head orange or orange-red, and upper tail-coverts dull crimson.

The above generic diagnosis is drawn from *E. melpoda*, the only species that occurs in America, having been introduced and naturalized in Porto Rico.

ESTRILDA MELPODA (Vieillot).

SCARLET-CHEEKED WEAVER-FINCH.

Adult male.—Pileum plain slate-gray or slate color; rest of upper parts, except upper tail-coverts, plain brown (varying from deep broccoli brown to nearly prouts brown or vandyke); upper tail-coverts dull crimson or maroon-crimson; tail brownish black, the middle pair of rectrices more slaty, or dusky brownish gray, edged basally with dusky red; lores and orbits flame scarlet or saturn red,

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the suborbital and part of auricular region similar but more orange; under parts pale gray, the abdomen buffy white, sometimes passing on lower portion and anal region into pale orange or salmon color; bill light colored (orange-red or scarlet in life); legs and feet dark horn color or brownish dusky; length (skins), 91–97 (94); wing, 44.5–45.5 (45); tail, 42.5–45 (43.5); exposed culmen, 8.5–9 (8.7); tarsus, 14; middle toe, 10.5–11 (10.8).[a]

Adult female.—"Top and sides of head drab gray,paler than in the male; rest of upper parts like the male; no orange on side of head; under parts showing a pale orange-yellow tinge."[b]

Young.—Above plain brown, as in adults, but pileum concolor with back, or nearly so; upper tail-coverts dull red or brownish red; lores and orbits pale orange, the auricular region tinged with the same; under parts as in adults but paler, with sides and flanks strongly tinged with brownish buffy.

Western Africa, from Senegambia to Angola. Introduced and naturalized in Porto Rico.

Fringilla melpoda VIEILLOT, Nouv. Dict. d'Hist. Nat., xii, 1817, 177 (based on *Bengali à joues Oranges* Vieillot, Ois. Chant., 1805, 26, pl. 7).

E[strelda] melpoda GRAY, Gen. Birds, ii, 1849, 369.

[*Estrelda*] *melpoda* BONAPARTE, Consp. Av., i, 1850, 460.

Estrelda melpoda HARTLAUB, Orn. West-Afr., 1857, 141.—CASSIN, Proc. Ac. Nat. Sci. Philad., 1859, 138.—HEINE, Journ. für Orn., 1860, 141.—HARTLAUB, Journ. für. Orn., 1861, 258.—SHARPE, Ibis, 1870, 482.—SHELLEY and BUCKLEY, Ibis, 1872, 290.—REICHENOW, Journ. für Orn., 1875, 41.—SHARPE and BOUVIER, Bull. Soc. Zool. France, iii, 1878, 76.—OUSTALET, Nouv. Arch. Mus. (2), ii, 1879, Bull., p. 112.—BOCAGE, Orn. Angola, 1881, 358.—FORBES, Ibis, 1883, 510.—SHELLEY, Ibis, 1883, 565; 1886, 382.—BÜTTIKOFER, Notes Leyden Mus., viii, 1886, 260.

H[abropyga] melpoda CABANIS, Mus. Hein., i, Aug. 1851, 169, footnote.

Habropyga melpoda CABANIS, Journ. für Orn., 1885, 464, in text (Angola).—SHARPE, Cat. Afr. Birds, 1871, 66.—GUNDLACH, Journ. für Orn., 1878, 160, 174 (Porto Rico; habits); Anal. Soc. Esp. Hist. Nat., vii, 1878, 206 (Porto Rico; introduced).—REICHENOW, Journ. für Orn., 1887, 301.—CORY, Auk, iii, 1886, 214; Birds West Ind., 1889, 101 (Porto Rico; introduced); Cat. West Ind. Birds, 1892, 113.

[*Habropyga*] *melpoda* CORY, List Birds West Ind., 1885, 13.

[*Estrilda*] *melpoda* GRAY, Hand-list., ii, 1870, 51, no. 6702.

Estrilda melpoda ALLEN, Bull. Nutt. Orn. Club, v, 1880, 121, in text (Porto Rico).

Sporæginthus melpodus SHARPE, Cat. Birds. Brit. Mus., xiii, 1890, 325.

Sporæginthus melpoda BOWDISH, Auk, xx, 1893, 13 (Porto Rico).

Melpoda lippa REICHENBACH, Singvögel, 1861, 26, pl. 7, figs. 62-64 (ex *Fringilla lippa* Lichtenstein, manuscript).

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[a] Three specimens—one from Liberia, two from Porto Rico.

[b] Cory, Auk, iii, 1886, 214; Birds West Ind., p. 101.

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Family ALAUDIDÆ.

THE LARKS.

Terrestrial nine- or ten- primaried Latiplantar Oscines.[a]

Bill variable in shape, but usually small, conoid, usually moderately thick or rather slender, sometimes very deep and compressed, in some genera slender and much elongated; maxillary tomium without subterminal notch. Nostril usually narrow, oblique, in lower anterior portion of nasal forsæ, sometimes longitudinal, usually at least partly concealed by antrorse feathering of loral antiæ. Rictal bristles indistinct or obsolete. Wing rather long, pointed, the longest primaries much longer than secondaries (except elongated "tertials"), the ninth, eighth, or seventh primaries longest, the tenth greatly reduced in size or rudimentary, sometimes minute and concealed; innermost secondaries (tertials) usually elongated, sometimes extending to tip of longest primaries. Tail variable in relative length but always much shorter than wing, nearly even, double rounded, or more or less deeply emarginate; rectrices twelve. Tarsus rather stout, variable as to relative length, latiplantar, the posterior edge broad and rounded, the planta tarsi scutellate on both sides, the scutella or segments usually alternating but sometimes nearly corresponding with those of the acrotarsium; middle toe shorter than tarsus, decidedly longer than lateral toes, which are nearly equal, but the inner more or less longer than outer; claws of anterior toes slightly curved, usually short, that of the hallux much longer, sometimes much elongated and nearly straight, occasionally much longer than the digit. Head usually more or less crested (bi-crested or "eared" in *Otocoris*).

Coloration.—Usually streaked brownish above, whitish, streaked with brown below; sometimes nearly plain brown or "isabelline" (in deserticole species), occasionally black or dusky; one genus (*Otocoris*) with conspicuous frontal and cheek patches and jugular collar or cresent of black.

Nidification.—Nest on ground, in open places; eggs speckled.

Range.—Palæarctic, Ethiopian, and Indian regions; one species in Australia and another (circumpolar one) in North America.

The most characteristic feature of the Larks among other oscinine families is seen in the scutellation of the tarsus. The anterior half of this is covered by divided scales lapping round on the sides, but instead of the two plates which go one on each side of the posterior half and unite ultimately behind as an acute ridge, there is but one which laps round on the sides, and is divided into scales like the anterior ones, but alternating with them. The posterior edge of the

[a] See Part I of this work, page 23.

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tarsus is as obtuse as the anterior, instead of being very acute. There is a deep separating groove on the inner side of the tarsus; and there may be really but one plate divided transversely, the edges meeting at this place.[a]

In the elongated hind claw and lengthened tertials, general style of coloration, mode of life, and manner of nesting, there is a decided approximation in the Alaudidæ to the Anthinæ, of the family Motacillidæ; but in these the posterior edge of the tarsus is sharp and undivided transversely (acutiplantar), the toes more deeply cleft, the bill more slender, etc., their relations being decidedly nearer to the Mniotiltidæ than to the present family.

The Larks are a strongly marked group of song birds, distinguished from all other oscinine groups by their latiplantar tarsus, as described above. They are terrestrial birds of small size and plain colors, feeding on both grain and insects. Many species are good songsters; indeed, the Skylark (*Alauda arvensis*) is so especially renowned that "of all birds it holds unquestionably the foremost place in our literature, and there is hardly a poet or poetaster who has not made it his theme, to say nothing of the many writers of prose who have celebrated its qualities in passages that will be remembered so long as our language lasts."[b]

The family is almost exclusively an Old World one, only one genus occurring regularly in America, this represented by a single species, also, Palæarctic or circumpolar, which has several congeners in Asia and northern Africa. A second genus occurs in North America as a straggler to Greenland and the Bermudas, the same species (the Skylark) having also been introduced into the United States, and become naturalized, apparently, in a few restricted areas. A closely related form (*Alauda arvensis pekinensis*), which represents the foregoing in northeastern Asia and is only subspecifically distinct, possibly occurs as a straggler on the Aleutian Islands. The Old World forms are numerous, embracing, according to the latest authority, more than one hundred species.

KEY TO THE AMERICAN GENERA OF ALAUDIDÆ.

a. Toes relatively longer, the middle one (without claw) much longer than exposed culmen, the hallux longer than lateral toes; a minute spurious primary; tail shorter than distance from bend of wing to end of secondaries, deeply emarginate; crown with a blunt crest, but no elongated, horn-like tuft on side of occiput; plumage dull brownish, conspicuously streaked on upper parts and on chest, but without black or dusky areas on crown, sides of head, or chest.....**Alauda** (p. 291)

[a] The Alaudidæ constitute part of Sundevall's *Scutelliplantares*, and are commonly mentioned as scutelliplantar Oscines, the remaining *Scutelliplantares* of Sundevall consisting of the Clamatores. The Alaudine tarsal envelope is, however, exceedingly distinct in its character from the holaspidean Clamatorial type, while at the same time it is equally different from that of all other Oscines in the respects pointed out.

[b] Newton, Dictionary of Birds, p. 507.

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aa. Toes relatively shorter, the middle one (without claw) not longer than exposed culmen, the hallux not longer than lateral toes; no obvious spurious primary; tail equal to or longer than distance from bend of wing to end of outermost secondaries, shallowly emarginate or nearly even; crown not crested, but a horn-like tuft of elongated narrow feathers on each side of occiput; plumage of adults mostly plain above (more or less pinkish, vinaceous, or cinnamomeous) the fore part of crown, loral and suborbital regions, and chest black (dusky in adult females) . **Otocoris** (p. 295)

Genus ALAUDA Linnæus.

Alauda LINNÆUS, Syst. Nat., ed. 10, i, 1758, 165. (Type, by elimination, *A. arvensis* LINNÆUS.)

Brownish, profusely streaked Alaudidæ with middle toe (without claw) longer than exposed culmen, hallux longer than lateral toes, a minute spurious primary, and deeply emarginate tail.

Bill about half as long as head, or less, narrowly conical, compressed, its width at frontal antiæ decidedly less than its depth at same point, and equal to not more than half the distance from nostril to tip of maxilla; exposed culmen shorter than middle toe without claw, nearly straight for most of its length, but more or less perceptibly decurved terminally, the tip of maxilla rather sharp but not uncinate; gonys much longer than mandibular rami, straight or very faintly convex, ascending terminally; maxillary tomium nearly straight, without trace of subterminal notch. Nostril concealed by short feathering of frontal antiæ, this feathering semierect above the nostril (where involving the upper portion of nasal fossæ), decumbent on lower portion. Rictal bristles minute, practically obsolete, the feathers of chin and decumbent feathers overhanging nostril with rather distinct, though short, bristly tips. Wing long and pointed, the longest primaries exceeding secondaries by nearly, to much more than, one-third the total length of wing; ninth, eighth, eighth and ninth, or seventh, eighth, and ninth, primaries largest, the tenth (outermost) rudimentary, very minute, much shorter than primary coverts (usually much less than half their length). Tail shorter than distance from bend of wing to end of outermost secondaries, deeply emarginate, the rectrices slightly tapering or narrowing terminally, with narrowly rounded or obtusely angular tip. Tarsus decidedly longer than middle toe with claw, rather stout, its scutellation holaspidean, with acrotarsial divisions sometimes indistinct; basal phalanx of middle toe united to outer toe by more than its basal half, to the inner toe by slightly to decidedly less; outer toe, without claw, reaching to second joint of middle toe, the inner toe slightly longer; hallux longer than inner toe, stouter, its claw usually much longer than the digit, slender, nearly straight or slightly arched; anterior claws small, slightly curved.

Coloration.—Above brown, everywhere streaked with dusky, the wings and tail dusky, with light brown edgings; lateral rectrices partly white; under parts dull whitish, tinged with tawny brown or buffy,

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the chest streaked with dusky. Crown with a blunt erectile crest. Sexes alike. Young spotted above instead of streaked, the feathers with conspicuous terminal margins of whitish; the general color of upper parts more tawny than in adults; tertials broadly margined with buff, or brownish buff, surrounding a submargin of dusky brown or dull blackish; chest buffy or ochraceous-buffy, more or less distinctly streaked or spotted with brown or dusky.

Nidification.—Nest on ground, in grain fields, pastures, or other open places, open above, composed of dried grasses, etc. Eggs (of *A. arvensis*) dull buffy whitish to pale grayish brown, thickly speckled with brown.

Range.—Europe, northern Africa, and Asia, including Formosa and Philippine Islands. (Three species, with additional subspecies; one species introduced into and sparingly naturalized in northeastern United States.)

ALAUDA ARVENSIS ARVENSIS (Linnæus).[a]

SKYLARK.

Adults (sexes alike) in spring and summer.—Above wood brown or isabella color, everywhere (except on wings and tail) streaked with blackish, the streaks broadest on crown, back, and rump, where margined with deeper brown, some of the interscapulars and scapulars with inner webs paler than the general color; lesser wing-coverts nearly uniform wood brown or isabella color; middle coverts dusky centrally, otherwise brown passing on margins into pale buffy brown or dull brownish white; greater coverts with concealed portion

[a] *Alauda arvensis* in its larger sense has a very wide range, and in different geographic areas of the region which it inhabits is differentiated into several more or less distinct subspecific forms. Dr. Hartert, in his *Vögel der Paläarktischen Fauna* (iii, 1905, 244–248) recognizes seven of these geographic forms, as follows: (1) *Alauda arvensis arvensis* Linnæus, of western, central, and northern Europe; (2) *Alauda arvensis cantarella* (Bonaparte) of southern Europe; (3) *Alauda arvensis cinerea* (Ehmeke), of western Siberia, Turkestan, etc.; (4) *Alauda arvensis harterti* Whitaker, of northern Africa; (5) *Alauda arvensis pekinensis* (Swinhoe), of Kamchatka, northeastern Siberia, etc.; (6) *Alauda arvensis japonica* (Temminck and Schlegel), of Japan; and (7) *Alauda arvensis intermedia* (Swinhoe), of Korea, Manchuria, and middle Siberia. In addition to *A. a. arvensis*, which has substantial claims to a place in a work on American birds, it is possible that *A. a. pekinensis* may also yet be included in our fauna, since a part of its range is so nearly contiguous to American territory in the Aleutian Islands. The characters and synonymy of this form are as follows:

Alauda arvensis pekinensis (Swinhoe).—Similar to *A. a. arvensis*, but slightly larger (especially the wing) and coloration brighter, the tawny suffusion more pronounced and black spots averaging larger.

Northeastern Asia, from Kamchatka (including Commander Islands) and northeastern Siberia to Sakhalin Island, Kuril Islands and northern Yesso, in winter to Japan and northern China (Peking).

Alauda cœlipeta Pallas, Zoogr. Rosso-Asiat., i, 1826, 524, part.—*Alauda pekinensis*

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dusky, passing toward edges through brown to pale brownish buff, the secondaries similarly colored but the three innermost (tertials) with greater part of exposed portion dusky grayish brown; primaries dusky edged with pale buffy brown or brownish buff, the outermost with outer web almost entirely pale buffy; middle pair of rectrices dusky medially, otherwise brown with paler margins; next pair similar in color but darker; other rectrices dusky, the outermost with most of outer web and portion of inner web next to shaft (except basally) dull white, the next rectrix with outer web edged with white; a broad but not sharply defined superciliary stripe of pale brownish buff or dull brownish white; auricular region brown, indistinctly streaked with darker; lores dull whitish; malar region similar in color to auricular region but paler and more distinctly streaked; under parts dull buffy white, strongly tinged on chest, sides and flanks with tawny buff, the last two narrowly and rather indistinctly streaked with darker, the first more broadly and very distinctly and sharply streaked with brownish black; axillars and under wing-coverts pale wood brown or grayish vinaceous; bill pale brownish buffy (grayish or lilaceous in life?) becoming darker or dusky on culmen; iris brown; legs and feet brownish (in dried skins).

Adults in autumn and winter.—Similar to the spring and summer plumage but the general color above more tawny brown, feathers of pileum, back, scapulars, and rump more or less distinctly margined terminally with whitish or pale buffy,[a] and dusky streaks on chest less sharply defined.

Young.—"Upper plumage sandy, tinged with buff, the center of the feathers dark brown with a very broad edging of sandy color,

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Swinhoe' Proc. Zool. Soc. Lond., 1863, 69 (Peking, n. China).—*Alauda arvensis pekinensis* Hartert, Vög. Paläark. Fauna, iii, June, 1905, 248.—*Alauda arvensis* (not of Linnæus) Kitllitz, Denkw., ii, 1858, 198; Homeyer, Journ. für Orn., 1869, 52, 171 (e. Siberia); Taczanowski, Journ, für Orn., 1872, 454 (e. Siberia); 1873, 86 (do); Bull. Soc. Zool. France, 1882, 389; Proc. Zool. Soc. Lond., 1887, 603 (Seoul, Korea, Mar., Apr.); 1888, 464 (Korea, resident); Dybowski, Bull. Soc. Zool. France, 1883, 361; Sharpe, Cat. Birds Brit. Mus., xiii, 1890, 567, part; Pogge, Journ. für Orn., 1902, 376 (n. e. China); Walton, Ibis, 1903, 30 (Peking, n. China).—*Alauda cantarella* (not of Bonaparte) Blakiston and Pryer, Trans. Asiat. Soc. Japan, x, 1882, 166.—*Alauda* ——? Blakiston, Amend. List Birds Japan, 1884, 59.—*Alauda*, sp. Stejneger, Naturen, 1884, 5.—*Alauda blakistoni* Stejneger, Proc. Biol. Soc. Wash., ii, Apr. 10, 1884, 98 (Bering I., Kamchatka; coll. U. S. Nat. Mus.); Bull. U. S. Nat. Mus., no. 29, 1885, 234; Proc. U. S. Nat. Mus., x, 1887, 142 (Bering I.); xv, 1892, 303 (Hakodate, Japan; crit., measurements, etc.); xxi, 1898, 287 (Kuril Islands).—*A[lauda] blakistoni* Ridgway, Man. N. Am. Birds, 1887, 347.—[*Alauda arvensis*] ε. *Alauda blakistoni* Sharpe, Cat. Birds Brit. Mus., xiii, 1890, 575, in list of specimens (Kamchatka; Askold I.; Euturup, Kuril Islands).

[a] Perfectly adult birds in winter plumage have these pale margins less distinct than younger birds; in fact, some specimens taken in February are without them and are hardly, if at all, distinguishable from spring and summer specimens. Some winter specimens have the dull whitish color of abdomen, etc., slightly tinged with yellow.

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becoming white at the tip of the feather; crown of the head a little darker and more rufous; lores, feathers in front of and round the eye, eyebrow, and sides of the neck behind the ear-coverts buffy white; ear-coverts sandy, slightly marked with brown; wing-coverts and quills sandy brown, with a broad margin of buff, before which is a narrow line of blackish, both inner and outer webs being margined in this manner; tail-feathers sandy brown with buff edgings, within which is seen the same black line running parallel to the outer margin as on the wings; outer tail-feathers all white, except the margin of the inner web; outer web of the penultimate white; under surface of the body creamy buff, the upper breast prettily marked with longitudinal streaks of brown, which color occupies the center of the feather, and is margined with buff on each side; under wing-coverts buffy white with a slight gray tinge."[a]

Adult male.—Length (skins), 159–188 (176); wing, 109.5–116 (113.3); tail, 68.5–73 (70.4); exposed culmen, 11 13.5 (12.2); tarsus, 24–26 (24.8); middle toe, 15–17 (16.2).[b]

Adult female.—Length (skins), 157–172 (165); wing, 98–111 (104.2); tail, 63.5–71.5 (64.7); exposed culmen, 11–13 (11.6); tarsus, 23–24.5 (23.8); middle toe, 14.5–16 (15.5).[c]

Europe in general, except Mediterranean district. Accidental in Greenland and the Bermudas, and introduced into the United States (Long Island, New York; Cincinnati, Ohio, etc.[d])

[*Alauda*] *arvensis* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 165; ed. 12, i,1766, 287.—GMELIN, Syst. Nat., i, 1788, 781.—GRAY, Hand-list, ii, 1870, 117, no. 7744.

Alauda arvensis TEMMINCK, Man. d'Orn., i, 1820, 281.—NAUMANN, Vög. Deutschl., iv, 1824, pl. 100, fig. 1.—BREHM, Vög. Deutschl., 1831, 320.—GOULD, Birds Europe, iii, 1837, pl. 166; Birds Gt. Brit., iii, 1873, pl. 15.—BONAPARTE, Geog. and Comp. List, 1838, 37; Consp. Av., i, 1850, 245.—MACGILLIVRAY, Hist. Brit. Birds, ii, 1839, 163.—KEYSERLING and BLASIUS, Wirb. Eur., 1840, 151.—SCHLEGEL, Rev. Crit., 1844, p. lix; Vog. Nederl., 1854, pl. 148; Dier. Nederl. Vög., 1861, pl. 17, fig. 10.—KJAERBOLLING, Daum. Fugle, 1852, pl. 18.—SUNDEVALL, Svensk. Fogl., 1856, pl. 8, fig. 1.—MARTENS, Journ. für Orn., 1859, 214 (Bermudas).—DEGLAND and GERBE, Orn. Eur., i, 1867, 339.—FRITSCH, Vög. Eur., 1870, pl. 16, fig. 11.—DRESSER, Birds Europe, iv, 1871, 307, pl. 231.—HARTING, Handb. Brit. Birds, 1872, 24.—COUES, Check List, 1873, no. 55 bis; 2d ed., 1884, no. 88.—HOMEYER, Journ. für Orn., 1873, 192 (monogr.).—NEWTON, ed. Yarrell's Hist. Brit. Birds, i, 1874, 614.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 136, pl. 32, fig. 3.—ROWLEY, Orn. Misc., i, 1875, pl. 14, fig. 4 (color varieties).—SEEBOHM and HARVIE BROWN, Ibis, 1876, 119 (lower Petchora, Russia).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 299.—SEEBOHM, Ibis, 1882, 379 (Archangel, Russia).—

[a] Dresser, Birds of Europe, iv, 309.

[b] Seven specimens.

[c] Six specimens.

[d] See Gorgas, Rep. Comm. Patents for 1853, Agric., 1854, 70, 71; Harris, Field Notes, i, no. 12, March 23, 1861, 92 (Ohio); Sherratt, Ornith. and Ool., ix, 1884, 24 (Winslow, New Jersey); and various papers in Forest and Stream, The Auk, etc.

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DIXON, Ibis, 1885, 83 (St. Kilda).—REID, Ibis, 1885, 246 (Morocco).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 473.—DUTCHER, Auk, v, 1888, 180 (Flatbush, etc., Long Island, breeding).—SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 567, part.—KOENIG, Journ. für Orn., 1890, 403 (Canary Islands).—PROCTOR, Auk, xii, 1895, 390 (Flatbush, Long Island, breeding).—BRAISLIN, Auk, xvi, 1899, 191 (firmly established on Long Island).—HENSHAW, Birds Hawaiian Islands, 1902, 132 (successfully introduced on Oahu and Maui).

A[lauda] arvensis GRAY, Gen. Birds, ii, 1847, 380.—CABANIS, Mus. Hein., i, 1851, 123 (Germany).—HEUGLIN, Journ. für Orn., 1868, 223 (n. e. Africa).—COUES, Key N. Am. Birds, 2d ed., 1884, 283; 5th ed., i, 1903, 508.—RIDGWAY, Man. N. Am. Birds, 1887, 347.

Alauda arvensis arvensis SCHALOW, Vögel der Arktis, 1904, 237 (Greenland).

[*Alauda*] *italica* GMELIN, Syst. Nat., i, 1788, 793 (based on *Italian Lark* Latham, Gen. Synop., ii, pt. 2, 373).

Alauda arvensis ruficeps BECHSTEIN, Naturg. Deutschl., iv, 1795, 121.

Alauda vulgaris LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 21.

Alauda agrestis BREHM, Vög. Deutschl., 1831, 318.

Alauda segetum BREHM, Vög. Deutschl., 1831, 319.

Alauda montana BREHM, Vög. Deutschl., 1831, 319.

[*Alauda*] *montana* GRAY, Hand-list, ii, 1870, 118, no. 7758.

Alauda subalpina EHMEKE, Journ. für Orn., 1903, 150.

Alauda scotica TSCHUSI, Orn. Jahrb., xii, 1903, 162.

Alauda sordida EHMEKE, Ann. Mus. Hung., 1904, 300.

I cite these names as synonyms of *A. arvensis* on the authority of R. B. Sharpe, E. Hartert, and others without committing myself further as to the question of whether they do or do not designate definable local forms, material necessary to form an opinion respecting their claims to recognition not being available. (See Bianchi, Ann. Mus. Zool. St. Petersb., ix, 1904, pp. xx-xxxi; Hartert, Fauna Pal. Region, i, 1905, 243.)

Genus OTOCORIS Bonaparte.

Eremophila (not *Eremophilus* Humboldt, 1805) BOIE, Isis, 1828, 322. (Type, *Alauda alpestris* Linnæus.)

Phileremos (not of Latreille, 1809) BREHM, Handb. Vög. Deutschl., 1831, 312. (Type, *Alauda alpestris* Linnæus.)

Brachonyx (not of Swainson, 1827, nor Schönhen, 1826) LESSON, Compl. de Buffon, viii, 1837, 126. (Type, ——.)

Otocoris BONAPARTE, Nuovi Ann. Sci. Nat. Bologna, ii, 1838, 407. (Type, *Alauda cornuta* Wilson,= *A. alpestris* Linnæus.)

Otocornis (emendation) RÜPPELL, Syst. Ueb., Vög. Nord-Ost. Afr., 1845, 78.

Otocorys (emendation) CABANIS, Mus. Hein., i, 1850, 121.

Otocoryx (emendation) LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 38.

Philammus GRAY, List. Gen. Birds, 1840, 47. (Type, *Alauda alpestris* Linnæus.)

Alaudidæ with horn-like tufts on each side of occiput, middle toe (without claw) not longer than exposed culmen, hallux not longer than lateral toes, no obvious spurious primary, tail slightly emarginate or nearly even, and coloration of adults mostly unstreaked (more or less pinkish, vinaceous or cinnamomeous above), with black on fore part of crown, sides of head, and chest (these areas dusky, more or less streaked in females.)

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Bill about half as long as head or considerably less, narrowly subconical, compressed, its width at frontal antiæ decidedly less than its depth at same point and equal to less than half the distance from nostril to tip of maxilla; exposed culmen equal to or longer than middle toe without claw, rounded or very indistinctly ridged, gently and evenly convex throughout, the tip of maxilla acute (in lateral view) and not at all uncinate; gonys nearly twice as long as mandibular rami, nearly straight, ascending terminally; maxillary tomium nearly straight (usually more or less deflected terminally), without trace of subterminal notch. Nostril wholly concealed by dense antrorse latero-frontal tufts, small, obliquely oval or almost linear, in lower anterior portion of nasal fossæ. Rictal bristles minute (practically obsolete); feathers of chin without, but decumbent feathers of lower portion of nasal (latero-frontal) tufts with, bristly points. Wing long and pointed, with longest primaries exceeding outermost secondaries by more than one-third the total length of wing; seventh and eighth, eighth, eighth and ninth, or ninth primaries longest, the tenth (outermost) primary excessively rudimentary, apparently absent, and only to be found by very close examination; tips of secondaries and innermost primaries emarginate; innermost secondaries slightly elongated. Tail equal to or longer than distance from bend of wing to end of outermost secondaries, even or slightly emarginate, the rectrices (except middle pair) not tapering, their tip rather broadly rounded. Tarsus about one-fifth as long as wing, nearly twice as long as middle toe without claw, its scutellation holaspidean, with divisions of acrotarsium distinct, at least on inner side; basal phalanx of middle toe united for greater part to both lateral toes; inner toe, without claw, reaching to or slightly beyond second joint of middle toe, the outer toe very slightly shorter; hallux about equal to inner toe but stouter, its claw longer (sometimes very much longer) than the digit, straight, or very slightly curved; anterior claws slightly curved, often more or less elongated.

Coloration.—Adult males brownish (more or less pinkish, vinaceous, or cinnamomeous) above, distinctly streaked only on back, or entirely unstreaked; fore part of crown, elongated horn-like tufts on side of occiput, loral and suborbital regions, and patch on chest black; forehead, superciliary stripe, throat, and under parts of body plain whitish, or except the last (and rarely that also) light yellow; lateral rectrices partly white. Adult females similar but more streaked and with black areas more restricted, duller in color, or broken by streaks. Young, mixed dusky and light brown above (in variably relative amount) speckled or dotted with white or buffy; wing-coverts margined with pale buffy; under parts whitish, the chest more or less tinged with pale brown or buffy and speckled or clouded with dusky

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Nidification.—Nest on ground, in open places, open above, composed of dried grass-stems, etc. Eggs (3–5) pale olive, pale buffy, etc., finely (usually densely) speckled with olive-brown (rarely cinnamon-buff speckled with rusty).

Range.—More open portions of North America, Europe, Asia, and northern Africa; in America south to southern Mexico, reappearing on highlands of Colombia. (Three or four species, with numerous subspecies.)

The seasonal and other changes of plumage in the species of this genus are so marked that it is quite necessary they should be clearly understood by any one attempting the identification of any one of them or any of the numerous subspecific forms. In attempting such determination, it is, of course, necessary to compare only specimens of the same sex in the same seasonal or other special plumage; and if one attempts to determine an unidentified form by comparing an example in winter plumage with another in spring or summer dress, the result will prove unsatisfactory to say the least. These various plumages have been so clearly described by Dr. Jonathan Dwight, jr., in his important paper [a] on the American forms, that I reproduce his descriptions here in full, rather than give new ones which could scarcely differ but in phraseology:

Males in breeding plumage.—Back various shades of brown, the feathers darkest along the shafts and edged with pinkish, reddish, or grayish, corresponding to the tints of the nape, and producing a mottled or broadly streaked appearance; back of head, sides of neck and nape (generally in marked contrast to the back) pinkish, vinaceous, or reddish, extending to the black of the jugulum and along the sides and flanks; shoulders and a band on rump usually redder than the nape; fore part of crown, erectile "horns," a broad loral stripe, extending wider below the eye into the middle ear-coverts and a crescentic patch on the jugulum, curving below from shoulder to shoulder, uniform black; frontal band, a broad superciliary stripe, the middle of the ear-coverts (often interrupted with dusky), chin, throat, and remaining lower parts white, usually tinged about the head with yellow, which is brightest on the chin and sometimes washes the breast; flanks obscurely streaked with dusky; tibiæ like sides or duller, sometimes pale yellow; wings similar in color to the back, rather darker, the quills whitish-edged; tail black, outer web of exterior feathers chiefly white, and color of rump-band shading off into the pale brown of the two central feathers. Bill plumbeous black, lower mandible paling from tip to base. Feet black.

As but one moult takes place in the year (at the end of the breeding season), the breeding plumage is the direct result of the wearing and fading of the autumn plumage, each individual feather wearing away at the points of least resistance, chiefly the tip. As the feathers of the back are darker at the base they fade least, the yellow ones fade most, while the vinaceous tints of the neck are often deeper in summer than in spring, when the grayish tips are longer, consequently:

Adult males in autumn plumage differ from breeding birds only in softer plumage and more blended colors; grayish, yellowish, or brownish tips obscure the whole of the upper parts, producing a grayer or darker, more broadly and indistinctly streaked appearance; yellowish tips obscure more or less the black areas; and dusky tips just

[a] The Auk, vii, 1890, 138–158, with map.

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below the black crescent produce a clouding or indistinct spotting across the breast. The yellows are much brighter.

Young of the year are usually more conspicuously spotted, washed with buffy across the breast, and browner and darker above, with smaller bills.

Females in breeding plumage.—Smaller than males; black areas more restricted and less clearly defined; streaked continuously above from frontal band to rump-band, lines narrowest on the head and fewest on the nape, sometimes forming a black patch (rarely as distinct as in the most indistinct male) on the fore part of the crown; frontal band often narrow and obscure; shoulders and ear-coverts frequently obscured with dusky; otherwise similar to the male.

Adult females in autumn plumage.—Plumage softer and colors more suffused than in breeding dress, grayish, brownish, or yellowish tips obscuring the various areas of color. Brownish wash and dusky spotting on the breast more or less distinct.

Young of the year usually darker and browner above, the breast below the crescent more conspicuously washed with buffy and more heavily spotted with dusky brown.

Young in first plumage.—Above dusky, brownish, or buffy, conspicuously dotted from bill to tail with white; wing-quills and coverts edged with buffy; below white, spotted (more or less) across the breast with dusky, often on a buffy wash. This plumage is completely moulted in acquiring the autumn dress, which varies but little from that of the adult. The feathers of the back are first replaced, those of the shoulders next, then the wing-quills, beginning with those nearest the body, and when the spotted plumage has nearly all disappeared, the head changing last, the black about the head and then that of the jugular crescent begins to show, and the tail feathers appear last of all. Bill and feet pale yellowish.

KEY TO THE SUBSPECIES OF OTOCORIS ALPESTRIS.[a]

a. Upper parts not speckled. (Adults.)

b. A sharply defined patch of black covering fore part of crown and posterior part of forehead, continued laterally to and involving the horn-like occipital tufts; black area on side of head and black patch across chest larger, deeper black. (Adult males)

c. Color of back more grayish, more strongly contrasted with pinkish color of hindneck and occiput, more heavily or darkly streaked.

d. Occiput, hindneck, and lesser wing-coverts paler and more vinaceous (between vinaceous-buff and buff-pink).

e. Larger (wing averaging more than 111 mm.[b]).

f. Throat always white; general color above paler and grayer, with hindneck, etc., more lilaceous. (Breeding in Alaska, except coast district east and south of Alaska peninsula; migrating south to Oregon, Utah, Montana, etc.).....**Otocoris alpestris arcticola** (p. 307)

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[a] The characters of the various subspecies, consisting almost entirely of differences in measurements and relative grayness or redness of upper parts, depth and extent of yellow of head (if present) and thus of a purely comparative nature, the construction of a really useful "Key" is necessarily a matter of very great difficulty. In fact, one that would be entirely satisfactory is, from the nature of the case, probably impossible, and I can only hope that the one here presented may be of some assistance in the proper identification of specimens. In the case of adult birds in winter, and especially young birds in their first winter, identification is still more difficult, since the distinctive color-characters are in these far less pronounced than in spring or summer, while on account of their extensive migrations the locality often does not provide any clue.

[b] All the measurements of *Otocoris* in this volume, except those of total length, are taken from Mr. Oberholser's paper (Proc. U. S. Nat. Mus., xxiv, 1902, 801–884).

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ff. Throat usually pale yellow; general color above darker and browner, with hindneck, etc., more vinaceous. (Breeding from western shores of Hudson Bay to valley of Mackenzie River; migrating southward to New York, Ohio, Michigan, Kansas, Utah, and Nevada.)

Otocoris alpestris hoyti (p. 306)

ee. Smaller (wing averaging less than 106 mm.)

f. Wing averaging more than 102 mm.

g. Paler, with color of back less strongly contrasted with that of hindneck and median lanceolate stripe of longer upper tail-coverts much narrower and paler.

h. Slightly paler and grayer, and averaging slightly smaller (wing 101–107.5, averaging 104.8). (Breeding in Saskatchewan, Assiniboia, southwestern Manitoba?, and extreme northern portion of North Dakota; migrating southward to Colorado, Kansas, Utah, and Colorado.).....**Otocoris alpestris enthymia** (p. 308)

hh. Slightly darker and browner, and averaging slightly larger (wing 101–110, averaging 105.8). (Central arid districts of United States, from western Dakotas, Nebraska, and Kansas, to Idaho and Nevada and northward on eastern side of Rocky Mountains to Alberta; migrating southward to Texas, Chihuahua, Sonora, and southeastern California.)..**Otocoris alpestris leucolæma** (p. 309)

gg. Darker, with color of back more strongly contrasted with that of hindneck and more heavily or darkly streaked, and median lanceolate stripe of longer upper tail-coverts much broader and darker.

h. Slightly paler, especially color of hindneck, and with pinkish area on lower rump more extended; sides and flanks browner or more vinaceous; slightly larger (wing 100–108, averaging 104.2). (Breeding in southern Canada, from Manitoba to southern Labrador, and southward to Long Island, Pennsylvania, Ohio, Kentucky, eastern Kansas, etc.; migrating southward to South Carolina, central Texas, etc., and westward, casually, to Colorado and Arizona.)

Otocoris alpestris praticola (p. 311)

hh. Slightly darker, especially color of hindneck, and with pinkish area on lower rump more restricted; sides and flanks grayer; slightly smaller (wing 98.5–106, averaging 102.9). (Northwestern semi-arid districts of United States, from western Nevada through Oregon and Washington east of Cascade Mountains to south-central British Columbia and northern Idaho and northwestern Montana; to central California in winter.)

Otocoris alpestris merrilli (p. 315)

ff. Smaller (wing averaging less than 100 mm.); throat brighter yellow.

g. Color of hindneck, etc., duller and grayer, less strongly contrasted with color of back, the latter much grayer; superciliary stripe usually yellow or tinged with yellow, and breast frequently more or less yellowish; slightly smaller (wing 92–102, averaging 96.8). (Coast of Texas, from Galveston Bay to across mouth of Rio Grande, in Tamaulipas, Mexico.).....**Otocoris alpestris giraudi** (p. 314)

gg. Color of hindneck, etc., brighter and more vinaceous, more strongly contrasted with color of back, the latter browner or more buffy; superciliary stripe and breast always (?) pure white; slightly larger (wing, 96.5–103, averaging 99.4). (Eastern and southeastern Mexico, in southern Tamaulipas, Hidalgo, and Oaxaca.)

Otocoris alpestris diaphora (p. 313)

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dd. Color of occiput, hindneck, and lesser wing-coverts darker and more rufescent (more vinaceous-cinnamon).

e. Darker, with upper back more distinctly streaked or spotted, contrasting abruptly and strongly with color of hindneck.

f. Back browner or more buffy, with streaks darker (more blackish); color of hindneck, etc., slightly paler; under parts of body usually more or less yellowish. (Humid coast slope of Washington and Oregon, south to northern California in winter.).....**Otocoris alpestris strigata** (p. 316)

ff. Back grayer with streaks less blackish; color of hindneck, etc., slightly darker; under parts of body white. (Santa Barbara Islands, California.).....**Otocoris alpestris insularis** (p. 317)

ee. Paler, with upper back less distinctly streaked (the streaks less dark), contrasting less with color of hindneck.

f. Smaller (wing 92 mm.). (Highlands of Colombia.)
Otocoris alpestris peregrina (extralimital)[a]

ff. Larger (wing 94–113 mm.).

g. Smaller (wing less than 107 mm.).

h. Slightly paler, especially color of hindneck, etc., the ground color of back slightly more buffy, the color of nape slightly more cinnamomeous. (Desert districts of southeastern California.)
Otocoris alpestris ammophila (p. 321)

hh. Slightly darker, with color of back slightly grayer, that of hindneck slightly more vinaceous.

i. Smaller (wing 94–102.5, averaging less than 100).

j. Occiput, hindneck, lesser wing-coverts, etc., darker vinaceous-cinnamon; wing averaging 96.8. (Coast plain of Oaxaca, southern Mexico.).....**Otocoris alpestris oaxacæ** (p. 323)

jj. Occiput, hindneck, etc., lighter vinaceous-cinnamon; wing averaging 99.1. (Southern coast district and San Joaquin Valley, California, north to Marin County, south to northern Lower California.).....**Otocoris alpestris actia** (p. 320)

ii. Larger (wing 98.5-106.5, averaging 102.9). (Southern portion of Mexican plateau, in States of Vera Cruz, Puebla, Tlaxcala, Mexico, Zacatecas, Guanajuato, and Jalisco.)
Otocoris alpestris chrysolæma (p. 319)

gg. Larger (wing 108–113, averaging 111.5). (Breeding in district east of Hudson Bay and southward to Newfoundland; migrating southward to South Carolina, Bermudas, Louisiana, etc., westward to Manitoba, Illinois, etc.).....**Otocoris alpestris alpestris** (p. 303)

cc. Color of back browner, more vinaceous or more buffy, less heavily (sometimes obsoletely) streaked, less strongly contrasted with color of hindneck.

d. Hindneck, lesser wing-coverts, etc., more rufescent (nearly cinnamon-rufous). (Sacramento Valley, California.).....**Otocoris alpestris rubea** (p. 322)

dd. Hindneck, lesser wing-coverts, etc., more pinkish (vinaceous-buff).

e. Darker, the color of hindneck, lesser wing-coverts, etc., between vinaceous-cinnamon and vinaceous-pink.

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[a] *Otocoris chrysolaimus* (nôt *Alauda chrysolaema* Wagler) Bonaparte, Atti Sc. Ital., 1845, 405.—*Otocorys peregrina* Sclater, Proc. Zool. Soc. Lond., 1855, 110, pl. 102 (Bogota, Colombia; coll. P. L. Sclater).—*Eremophila peregrina* Sclater, Cat. Am. Birds, 1862, 127.—[*Otocorys alpestris.*] Subsp. *β. Otocorys peregrina* Sharpe, Cat. Birds Brit. Mus., xiii, 1890, 547.—*Otocorys alpestris* var. *peregrina* Dubois, Synopsis Avium, pt. 7, 1901, 452.—*Otocoris alpestris peregrina* Oberholser, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 841 (monogr.).

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f. Larger (wing 103.5–110.5, averaging 106.4). (Central New Mexico and Arizona, south in winter to northern Sonora and Chihuahua and northwestern Texas.).....**Otocoris alpestris occidentalis** (p. 324)

ff. Smaller (wing 97–105.5, averaging less than 103).

g. Lower back distinctly streaked. (States of Durango, Chihuahua, and Coahuila, north-central Mexico, to southwestern New Mexico and southeastern Arizona.).....**Otocoris alpestris aphrasta** (p. 326)

gg. Lower back very obsoletely streaked.

h. Darker and more rufescent (nearly uniform vinaceous-cinnamon, more vinaceous on hindneck, etc.). (South-central Arizona in summer, northern Sonora and Chihuahua in winter.)

Otocoris alpestris adusta (p.325)

hh. Paler and more cinnamomeous (nearly uniform light vinaceous-cinnamon, the back and wings light buffy brown or wood brown.) (Shores of Gulf of California, in northwestern Sonora; Santa Rosalia Bay, Lower California?)..**Otocoris alpestris pallida** (p. 326)

ee. Paler, the color of hindneck, lesser wing-coverts, etc., salmon-buff or vinaceous-buff. (Valley of Colorado River, from northeastern Lower California and southwestern Arizona to southern Nevada.)

Otocoris alpestris leucansiptila (p. 327)

bb. No sharply defined black patch on anterior portion of crown, the black area on side of head and that on chest reduced in size and duller black. (Adult females.)

c. General color above decidedly cinnamomeous.

Otocoris alpestris rubea, adult female (p. 322)

cc. General color above grayish or buffy brownish.

d. Wing averaging less than 100 mm.

e. General color above decidedly gray, even the lesser wing-coverts not cinnamomeous or vinaceous....**Otocoris alpestris giraudi**, adult female (p. 314)

ee. General color above more or less buffy or brownish, the lesser wing-coverts more or less cinnamomeous or vinaceous.

f. Back broadly striped with black; under parts usually more or less yellowish.....**Otocoris alpestris strigata**, adult female (p. 317)

ff. Back striped with dusky (not black); under parts not yellowish.

g. Upper parts heavily streaked, the broad dusky streaks equal to or greater in extent than the slightly buffy grayish ground color.

h. Smaller (wing 88–97, averaging much less than 97); throat deeper yellow and superciliary stripe yellowish.

i. Outer webs of greater wing-coverts and primary coverts grayish brown or wood brown; wing 88–97, averaging 91.4.

Otocoris alpestris insularis, adult female (p. 318)

ii. Outer webs of greater wing-coverts and primary coverts vinaceous-cinnamon; wing 92.

Otocoris alpestris peregrina, adult female (p. 300)

hh. Larger (wing 94–102, averaging about 97); throat paler yellow or white; superciliary stripe dull white.

i. Sides of breast heavily streaked or spotted with dusky and flanks heavily streaked..**Otocoris alpestris merrilli**, adult female (p. 315)

ii. Sides of breast narrowly, if at all, streaked, and flanks narrowly streaked.**Otocoris alpestris praticola**, adult female (p. 311)

gg. Upper parts more narrowly streaked, the dusky streaks much less in extent than the more decidedly buffy grayish ground color.

h. Throat deeper yellow; sides and flanks more strongly brown or cinnamomeous.

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i. Lesser wing-coverts more deeply and uniformly vinaceous-cinnamon.

j. Larger (wing 91–96.5, averaging 94.8); general color of upper parts more grayish brown.

Otocoris alpestris chrysolæma, adult female (p. 319)

jj. Smaller (wing 87–90.5, averaging 89.3); general color of upper parts morebu ffy. **Otocoris alpestris oaxacæ**, adult female (p. 323)

ii. Lesser wing-coverts less deeply or uniformly vinaceous or cinnamomeous.

j. Sides of neck and sides of breast strongly vinaceous, with very indistinct, if any, streaks.

Otocoris alpestris diaphora, adult female (p. 313)

jj. Sides of neck and sides of breast very faintly, if at all, vinaceous, the latter distinctly streaked.

k. Darker, more olivaceous, with streaks on lower back darker and broader; sides and flanks deeper brown, more distinctly streaked. **Otocoris alpestris actia**, adult female (p. 320)

kk. Paler, more buffy, with streaks on lower back narrower and less dusky; sides and flanks paler brown, less distinctly streaked. . **Otocoris alpestris aphrasta**, adult female (p. 326)

hh. Throat paler yellow or yellowish white; sides and flanks paler brown or cinnamomeous.

i. Upper parts more buffy.

j. Throat decidedly yellow.

k. Paler; sides and flanks very pale cinnamomeous, not distinctly, if at all, streaked.

Otocoris alpestris leucansiptila, adult female (p. 327)

kk. Darker; sides and flanks deeper cinnamomeous or buffy brown, more or less distinctly streaked.

l. Sides and flanks more buffy brown.

m. Larger (wing 95–103, averaging 98.8).

Otocoris alpestris occidentalis, adult female (p. 324)

mm. Smaller (wing 90–96, averaging 92.6).

Otocoris alpestris ammophila, adult female (p. 321)

ll. Sides and flanks cinnamomeous.

Otocoris alpestris adusta, adult female (p. 325)

jj. Throat white, or yellowish white.

Otocoris alpestris leucolæma, adult female (p. 309)

ii. Upper parts grayer (throat white, or yellowish white).

Otocoris alpestris enthymia, adult female (p. 308)

dd. Wing averaging 101 mm. or more.

e. Superciliary stripe yellow, like throat; color of upper parts browner.

Otocoris alpestris alpestris, adult female (p. 304)

ee. Superciliary stripe white; color of upper parts grayer.

f. Color of upper parts slightly browner; throat yellowish white.

Otocoris alpestris hoyti, adult female (p. 306)

ff. Color of upper parts slightly grayer; throat white.

Otocoris alpestris arcticola, adult female (p. 307)

aa. Upper parts speckled. (Young.[a])

b. Under parts yellowish..... **Otocoris alpestris alpestris**, young (p. 304)

bb. Under parts white.

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[a] The key to the young is necessarily incomplete, several of the forms being unrepreented in this plumage in the material examined.

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c. Darker, with black or dark sooty brown prevailing on back.

d. Very dark above, with more of black than brown, and spots white.

Otocoris alpestris praticola, young (p. 311)

dd. Moderately dark above, with black and brown in nearly equal amount, the spots more buffy.

O. a. hoyti, O. a. enthymia, O. a. chrysolæma, O. a. strigata, O. a. rubea.[a]

cc. Paler, with light brown or buffy grayish brown prevailing on back.

d. General color above grayer and rather paler.

O. a. leucolæma, O. a. giraudi, O. a. ammophila, and **O. a. diaphora.**[a]

dd. General color above browner or more cinnamomeous and rather darker.

O. a. occidentalis, O. a. actia, O. a. aphrasta, O. a. adusta, and **O. a. oaxacæ.**[a]

OTOCORIS ALPESTRIS ALPESTRIS (Linnæus).

SHORE LARK.

Adult male in spring and summer.—A broad patch covering anterior half of crown and posterior half (more or less) of forehead and extending backward laterally to sides of occiput, where involving an elongated erectile tuft of narrow feathers, black; anterior portion of forehead and broad superciliary stripe pale straw yellow or primrose yellow, usually paler (yellowish white) posteriorly; loral and suborbital regions and lower anterior portion of auricular region black, this black area bordered posteriorly by light straw yellow, primrose yellow or yellowish white, from lower posterior margin of eye backward and downward across middle portion of auricular region, confluent below with the more decidedly yellow (straw yellow) area covering chin and throat; upper and posterior margin of auricular region grayish brown (hair brown); a broad, somewhat crescentic, patch of black across upper chest and invading median lower portion of throat; median posterior portion of crown, occiput, hindneck, lesser wing-coverts, and terminal portion (broadly) of middle wing-coverts, between dull vinaceous and vinaceous-cinnamon, the upper tail-coverts similar but rather more cinnamomeous, the longer accuminate coverts grayish brown edged with paler; back, scapulars, and rump grayish brown, the feathers edged with paler and with a central wedged-shaped area of dusky, these markings larger on lower back and rump; wings (except lesser and middle coverts) deep grayish brown (hair brown) with paler edgings, the outermost primary broadly edged with white; tail black, the middle pair of rectrices grayish brown with basal half (except medially) more wood brown or fawn color, margined with paler or dull whitish, the two lateral pairs edged exteriorly with white (except basally), the outermost with terminal portion of inner web light grayish; under parts of body white, the sides and flanks dull vinaceous or vinaceous-cinnamon, more or less streaked with dusky; bill black, the basal half (more or less) of mandible light bluish gray (in life); iris dark brown; legs and feet black.

[a] The differences between these scarcely to be indicated in a key.

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Adult male in autumn and winter.—Similar to the spring and summer plumage, but black of crown, etc., more or less obscured by brownish tips to the feathers, that of chest by narrow tips of pale yellowish gray, yellow of superciliary stripe, throat, etc., deeper, white of chest more or less broken by pale grayish brown tips to the feathers, color of occiput, etc., much duller, more olivaceous (the vinaceous color concealed), dusky centers to feathers of back, etc., much less distinct, browner, and middle wing-coverts broadly margined with whitish.

Adult female in spring and summer.—Smaller and much duller in color than the male, the whole pileum grayish brown streaked with dusky, black area on side of head reduced in extent, duller black or merely dusky, the feathers narrowly tipped with dull whitish (except in worn midsummer plumage); jugular patch also reduced in size; superciliary stripe, throat, etc., paler and duller yellow; upper parts more extensively streaked, with little of vinaceous showing on hindneck or upper tail-coverts; otherwise essentially as in the male.

Adult female in autumn and winter.—Similar to the spring and summer plumage, but general color of upper parts slightly grayer (less brown), sides and flanks more distinctly streaked, breast marked with more or less distinct triangular spots of grayish, and yellow of throat, etc., rather deeper.

Young, first plumage.—Pileum blackish (the feathers light brownish basally) speckled with yellowish white; rest of upper parts mixed brown and dusky, the feathers with a small terminal triangular spot of yellowish white, the scapulars brown, with a subterminal transverse spot of black and broad terminal margin of yellowish white; lesser and middle wing-coverts dusky, with large terminal spots of dull yellowish white; greater coverts and remiges deep hair brown edged with brownish buff, the brown color darker just within this buff margin, which passes terminally into yellowish white; a superciliary stripe and suborbital spot of pale straw or primrose yellow, the rest of side of head dusky speckled with whitish; chin and throat pale straw yellow or dull primrose yellow, this color extending across sides of neck, immediately behind auricular region, almost to posterior end of the superciliary stripe; chest pale brownish buffy, more or less distinctly spotted with dusky; rest of under parts very pale yellow or yellowish white.

Adult male.—Length (skins), 160–180 (172);[a] wing, 108–113 (111.5); tail, 66.5–75 (71.8); exposed culmen, 11–13 (12.2); tarsus, 22–25 (24); middle toe, 13–14 (13.5).[b]

Adult female.—Length (skins), 155–170 (161);[a] wing, 101–109 (103.8); tail, 60.5–66.5 (63.1); exposed culmen, 10.5–12 (11.1); tarsus, 22–24 (23.2); middle toe, 11.5–14 (12.8).[b]

[a] Five specimens. [b] Fifteen specimens.

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Breeding in northeastern British America, east of Hudson Bay, from Newfoundland, Labrador, and head of James Bay northward; in winter migrating west to Manitoba and the Mississippi Valley (eastern portion, chiefly) and southward to Illinois, Ohio, and the Carolinas, casually to Louisiana and the Bermudas; accidental in Greenland.

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[*Eremophila*] *alpestris* COUES, Key N. Am. Birds, 1872, 89, part.

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[*Otocoris*] *alpestris* BONAPARTE, Consp. Av., i, 1850, 246, part.—GRAY, Handlist, ii, 1870, 117, no. 7734, part.

O[*tocoris*] *alpestris* GRAY, Gen. Birds, ii, 1847, 382, part.—RIDGWAY, Man. N. Am. Birds, 1887, 348, part.

Otocoris alpestris alpestris OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 807 (monogr.).—SCHALOW, Vögel der Arktis, 1904, 237.

Otocorys alpestris GRAY, List Gen. Birds, 1841, 62.—REINHARDT, Ibis, 1861, 8 (Godthaab, Greenland, accidental; crit.).—SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 541, part (excl. syn. *Alauda nivalis* Pallas, and all e. Asiatic references).

O[*tocorys*] *alpestris* HENSHAW, Auk, i, 1884, 263, part (diagnosis, etc.).—COUES, Key N. Am. Birds, 5th ed., i, 1903, 505, part.

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Otocoryx alpestris LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 38.

Alauda cornuta WILSON, Am. Orn., i, 1808, 87.

Eremophila cornuta BOIE, Isis, 1828, 322.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 403, part; Cat. N. Am. Birds, 1859, no. 302.—COUES, Proc. Ac. Nat. Sci. Philad., 1861, 221 (Labrador).

Phileremos cornutus BONAPARTE, Geog. and Comp. List, 1838, 37, part.

[*Otocoris*] *cornuta* BONAPARTE, Consp. Av., i, 1850, 246.—GRAY, Hand-list, ii, 1870, 117, no. 7728.

O[*tocorys*] *cornuta* CABANIS, Mus. Hein., i, March, 1851, 122 (North America).

OTOCORIS ALPESTRIS HOYTI Bishop.

HOYT'S HORNED LARK.

Similar to *O. a. alpestris*, but slightly paler, with superciliary stripe white instead of yellow, yellow of throat paler and more restricted (usually confined to middle of throat), and general coloration of upper parts rather grayer brown. Adult female much grayer than that of *O. a. alpestris*, with superciliary stripe white, throat white or yellowish white and sides of breast grayish vinaceous instead of cinnamomeous; browner than that of *O. a. arcticola*, with throat and chin (especially the latter) more or less tinged with yellow. Young similar in coloration of upper parts to that of *O. a. alpestris*, but superciliary stripe dull buffy white, instead of pale yellowish, and under parts without yellow tinge. (Intermediate between *O. a. alpestris* and *O. a. arcticola*, differing from the latter in slightly darker and browner upper parts and yellowish throat.)

Adult male.—Length (skins), 170–180 (175); wing, 104–115.5 (111.1); tail, 65.5–75 (70.5); exposed culmen, 10.5–13 (11.4); tarsus, 21–23.5 (22.3); middle toe, 11.5–13 (12.5).[a]

Adult female.—Length (skins), 160–170 (165); wing, 102–107 (104); tail, 60–69 (63.2); exposed culmen, 10–11.5 (10.8); tarsus, 21–23.5 (22.1); middle toe, 11–13 (12).[b]

Breeding in British America from western shores of Hudson Bay to valley of the Mackenzie River, north to Arctic coast, south to Lake Athabasca; migrating southward to Michigan, Kansas, Utah, and Nevada, casually to Ohio and New York (Long Island).

O[*tocoris*] *alpestris* RIDGWAY, Man. N. Am. Birds, 1887, 348, part.

O[*tocorys*] *alpestris* COUES, Key N. Am. Birds, 5th ed., i, 1903, 505, part.

Alauda . . . alpestris (not of Linnæus) FORSTER, Philos. Trans., lxii, 1772, 398 (Albany Fort, Hudson Bay).

Otocoris alpestris COOKE, Bird Migr. Miss. Val., 1888, 155, part.—CLARKE, Auk, vii, 1890, 322 (Fort Churchill, Keewatin, breeding).

E[*remophila*] *alpestris* COUES, Key N. Am. Birds, 2d ed.,1884, 281, part.

O[*tocorys*] *alpestris* COUES, Key N. Am. Birds, 5th ed., i, 1903, part.

O[*tocoris*] *alpestris* RIDGWAY, Man. N. Am. Birds, 1887, 348, part.

Otocorys alpestris leucolæma (not *Eremophila alpestris* b. *leucolæma* Coues) HENSHAW, Auk, i, 1884, 258, part.

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[a] Fifteen specimens.

[b] Thirteen specimens.

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Otocoris alpestris leucolæma DWIGHT, Auk, vii, 1890, 142, part.

O[tocoris] alpestris leucolæma RIDGWAY, Man. N. Am. Birds, 1887, 348, part.

Otocoris alpestris hoyti BISHOP, Auk, xiii, April, 1896, 130 (Cando, Towner Co., North Dakota; coll. L. B. Bishop).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 812 (monogr.)—PREBLE, North Am. Fauna, no. 22, 1902, 114 (York Factory, Fort Churchill, Cape Eskimo, etc., Keewatin).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 344, (check list no 474*k*).—SCHALOW, Vögel der Arktis, 1904, 239.

Alauda cornuta (not of Wilson) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 245, part.

OTOCORIS ALPESTRIS ARCTICOLA Oberholser.

PALLID HORNED LARK.

Similar to *O. a. hoyti*, but upper parts slightly paler and grayer, with hindneck, etc., more lilaceous, and without any yellow on head, the whole throat, as well as superciliary stripe, being white. Adult female similar to that of *O. a. hoyti*, but coloration of upper parts decidedly grayer, vinaceous of upper tail-coverts and lesser wing-coverts decidedly paler and less rufescent, and throat and chin entirely white. (Young not seen.)

Adult male.—Length (skins), 160–175 (168); wing, 108.5–114.5 (111.5); tail, 67.5–74 (70.7); exposed culmen, 10–12.5 (11.3); tarsus, 21.5–24 (22.7); middle toe, 12–13 (12.6).[a]

Adult female.—Length (skins), 165–167 (166); wing, 101.5–106 (104.1); tail, 62–67 (64.3); exposed culmen, 9.5–11 (10.2); tarsus, 21.5–23 (22.3); middle toe, 11.5–13 (12.3).[b]

Breeding in Alaska (except Pacific coast district) and valley of the upper Yukon River, Northwest Territory; migrating southward to Oregon, Utah, Montana, etc.

Alauda cornuta (not of Wilson) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 245, part.

Eremophila cornuta BAIRD, Rep. Pacific R. R. Survey, ix, 1858, 404, part; x, pt. iii, 1859, 13, pl. 32 (Utah); Cat. N. Am. Birds, 1859, no. 302, part.—(?) LORD, Proc. Roy. Art. Inst. Woolwich, iv, 1864, 118, part (British Columbia).—DALL and BANNISTER, Trans. Chicago Acad. Sci., i, 1869, 281 (Fort Yukon, June).

Otocoris occidentalis (not of McCall) BAIRD, Stansbury's Rep. Gt. Salt Lake, 1852, 318, 331 (Salt Lake City, Utah, winter).

[*Eremophila alpestris*] var. *occidentalis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 140.

[*Eremophila alpestris*] b. *leucolæma* COUES, Birds Northwest, 1874, 38, part (in synonymy).

[*Eremophila alpestris.*] Var. *leucolæma* COUES, Birds Northwest, 1874, 39, in text (Fort Randall, North Dakota, Mar.).

Eremophila alpestris . . . var. *leucolæma* RIDGWAY, Bull. Essex Inst., v, Jan., 1875, 37 (Nevada).

[*Eremophila alpestris.*] Var. *leucolæma* HENSHAW, Zool. Expl. W. 100th Merid., 1875, 309, part (excl. syn. part).

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[a] Fifteen specimens. [b] Six specimens.

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[*Eremophila alpestris.*] *β. leucolæma* RIDGWAY, Orn. 40th Parallel, 1877, 498 (w. Nevada, winter).

Eremophila alpestris leucolæma RIDGWAY, Nom. N. Am. Birds, 1881, no. 300*a*.—COUES, Check List, 2d ed., 1882, no. 83, part.—NELSON, Cruise "Corwin," 1881 (1883), 74 (St. Michael, Alaska).

E[remophila] a[lpestris] leucolæma COUES, Key N. Am. Birds, 2d ed., 1884, 282, part.

O[tocorys] alpestris leucolæma HENSHAW, Auk, i, July, 1884, 263 (diagnosis, etc.).

Otocoris alpestris leucolæma AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 474*a*.—ANTHONY, Auk, iii, 1886, 166 (Washington Co., Oregon, winter).—TURNER, Contr. Nat. Hist. Alaska, 1886, 166 (near St. Michael).—NELSON, Nat. Hist. Coll. Alaska, 1887, 162 (St. Michael and upper Yukon).—COOKE, Bird Migr. Miss. Val., 1888, 156 (Dakota, Nebraska, Kansas, etc., in winter).—DWIGHT, Auk, vii, 1890, 142 (Monogr.).

O[tocoris] alpestris leucolæma RIDGWAY, Man. N. Am. Birds, 1887, 348.

O[tocorys] a[lpestris] leucolæma COUES, Key N. Am. Birds, 5th ed., i, 1903, 507, part.

Otocorys leucolæma SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 538 (Frenchmans R. and Three Buttes, Montana; Sun River and Black Hills, Dakota; Carson, Nevada; Walla Walla, Washington; British Columbia).

(?) *Eremophila alpestris* (not *Alauda alpestris* Linnæus) HARTLAUB, Journ. für Orn., 1883, 274 (Dejäh and Portage Bay, Alaska).

Otocoris alpestris arcticola OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, June 9, 1902, 816 (Fort Reliance, Yukon River, Northwest Territory; coll. U. S. Nat. Mus.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 343 (check list no. 474*a*).—OSGOOD, North Am. Fauna, no. 24, 1904, 71 (Portage Mts., Alaska).—SCHALOW, Vögel der Arktis, 1904, 240.

OTOCORIS ALPESTRIS ENTHYMIA Oberholser.

[SASKATCHEWAN HORNED LARK.

Similar to *O. a. arcticola*, but smaller and upper parts still paler, and throat usually yellow or yellowish; similar also to *O. a. leucolæma* but upper parts slightly paler and grayer, superciliary stripe white and (usually) paler yellow throat. Adult female similar to that of *O. a. arcticola* but decidedly smaller and much paler, and throat usually more or less tinged with yellow; similar also to that of *O. a. leucolæma* but grayer and slightly smaller. Young similar to that of *O. a. leucolæma* but averaging slightly more grayish. (Intermediate, except in size, between *O. a. arcticola* and *O. a. leucolæma* but nearer the latter and perhaps not satisfactorily separable.)

Adult male.—Length (skins), 157–168 (162); wing, 101–107.5 (104.8); tail, 67–75 (70.4); exposed culmen, 10.5–12.5 (11.3); tarsus, 21–23 (21.8); middle toe, 11.5–13 (12.1).[a]

Adult female.—Length (skins), 149–153 (151); wing, 93.5–101 (97.6); tail, 59–66 (62.5); exposed culmen, 9–11 (10.2); tarsus, 20–22 (21.2); middle toe, 10.5–12 (11.5).[a]

Breeding on the plains of south-central British America, in provinces of Saskatchewan, Assiniboia, and probably western Manitoba; migrating southward to Kansas and Colorado, occasionally to Utah and Arizona.

[a] Fifteen specimens.

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(?) *Alauda cornuta* (not of Linnæus) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 245, part.

Otocoris alpestris enthymia OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 817 (St. Louis, Saskatchewan; coll. U. S. Nat. Mus.).

OTOCORIS ALPESTRIS LEUCOLÆMA (Coues).

DESERT HORNED LARK.

Similar to *O. a. enthymia*, but color of back slightly paler and grayer and superciliary stripe usually yellowish; similar also to *O. a. occidentalis* but upper parts paler, the back more buffy (less brown), the hindneck, etc., lighter vinaceous (less cinnamomeous or rufescent). Adult female similar to that of *O. a. enthymia* but more buffy and slightly larger. Young similar to that of *O. a. enthymia* but averaging slightly more buffy; general coloration of upper parts pale buffy grayish, speckled with dusky and pale grayish buff or dull buffy white, the latter in form of rounded or triangular terminal spots; beneath white, the chest faintly shaded with pale grayish buffy and speckled with dusky grayish. (Intermediate between *O. a. enthymia and O. a. occidentalis.*)

Adult male.—Length (skins), 156–163 (161); wing, 101–110 (105.8); tail, 68–77 (71.5); exposed culmen, 10–13 (11.5); tarsus, 20.5–23 (21.8); middle toe, 11–12 (11.7).[a]

Adult female.—Length (skins), 145–152 (149); wing, 95–102 (98.6); tail, 58–67 (64); exposed culmen, 9.5–11.5 (10.5); tarsus, 20–22 (21.1); middle toe, 10.5–12 (11.4).[a]

Breeding on the northern Great Plains and arid region of the Great Basin, from western Kansas, western Nebraska, and central South and North Dakota to Nevada and Idaho, north, on eastern side of Rocky Mountains to Alberta; migrating southward to Texas, Chihuahua, Sonora, and southeastern California.

Alauda cornuta (not of Wilson) MAXIMILIAN, Reis. Nord-Amerika, 1839, 367 (upper Missouri).

Eremophila cornuta BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 403, part; Cat. N. Am. Birds, 1859, no. 302, part.—COOPER, Am. Nat., iii, 1869, 75, 295, 297 (Montana).—STEVENSON, Prelim. Rep. U. S. Geol. Surv., 1871, 464 (North Platte, Henrys Fork, etc., Montana).—AIKEN, Proc. Boston Soc. N. H., xv, 1872, 202 (Colorado).—HOLDEN, Proc. Boston Soc. N. H., xv, 1872, 202 (Wyoming).—MERRIAM, Sixth Ann. Rep. U. S. Geol. Surv., 1873, 685 (Salt Lake City, Utah).

(?) *Eremophila cornuta*, var. *occidentalis* (not *Otocoris occidentalis* McCall) DRESSER, Ibis, 1865, 486.

Eremophila alpestris . . . var. *occidentalis* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 183 (Colorado).

Alauda rufa (not of Audubon) BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 331 (Utah).

A[lauda] rufa MAXIMILIAN, Journ. für Orn., 1858, 349, part (upper Missouri R.).

[a] Fifteen specimens.

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[*Eremophila cornuta.*] Var. *chrysolæma* (not *Alauda chrysolaema* Wagler) BAIRD, Rep. Pacific R. R. Survey, ix, 1858, 403, in text, part.

[*Eremophila alpestris.*] Var. *chrysolæma* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 144, part (Salt Lake City, Utah).

Eremophila alpestris chrysolæma RIDGWAY, Bull. Essex. Inst., vii, Jan., 1875, 19 (West Humboldt Mts.), 23 (lower Humboldt Valley), 24 (Salt Lake Valley, Utah).

Eremophila alpestris (*chrysolæma?*) RIDGWAY, Bull. Essex. Inst., vii, 1875, 32 (Parleys Park, Utah, breeding).

[*Eremophila alpestris*] var. *chrysolæma* RIDGWAY, Bull. Essex Inst., vii, 1875, 37 (Nevada).

Eremophila alpestris . . . var. *chrysolæma* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 183 (Colorado).—HENSHAW, Rep. Orn. Spec. Wheeler's Survey in 1872, 1874, 64 (Fort Garland, Colorado, breeding); Zool. Expl. W. 100th Merid., 1875, 310, part (Colorado; Utah; Nevada).

Eremophila alpestris, var. *chrysolæma* TRIPPE, in Coues' Birds Northwest, 1874, 231 (Colorado).

[*Eremophila alpestris*] *γ. chrysolæma* RIDGWAY, Orn. 40th Parallel, 1877, 499, part (Salt Lake City and Antelope I., Utah, breeding).

Eremophila alpestris chrysolæma DREW, Bull. Nutt. Orn. Club, vi, April, 1881, 88 (San Juan Co., Colorado, breeding); Auk, ii, 1885, 17 (Colorado; vertical range).—BROWN (N. C.), Bull. Nutt. Orn. Club, vii, 1882, 40 (Kendall Co., w. Texas, Mar.).—BATCHELDER, Auk, ii, 1885, 239 (New Mexico, winter).

Eremophila alpestris (not *Alauda alpestris* Linnæus) BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 141, part.—YARROW and HENSHAW, Orn. Rep. Wheeler's Survey, 1874, 19 (Fairfield, Gunnison, and Beaver, Utah, Aug. to Nov.).—HENSHAW, Rep. Orn. Spec. Wheeler's Survey, 1874, 45 (Utah); Zool. Expl. W. 100th Merid., 1875, 309, part.—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 339, 345, 353 (Nevada and Utah).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 442.—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 176 (Kansas; Colorado; Wyoming; Utah).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 92 (Twin Lakes, Colo.; breeding).

[*Eremophila alpestris*] var. *alpestris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 140, 143, part.

[*Eremophila alpestris.*] *α. alpestris* RIDGWAY, Orn. 40th Parallel, 1877, 498, 499, excl. syn. (Nevada).

[*Eremophila alpestris.*] b. *leucolæma* COUES, Birds Northwest, 1874, 38, part (type from Fort Randall, South Dakota; in coll. U. S. Nat. Mus. See Coues Am. Nat., 1874, 602; Allen. Pr. Bost. Soc. xvii, 1874, 50).

Eremophila alpestris, γ. leucolæma RIDGWAY, Field and Forest, June, 1877, 208, part (Colorado).

Eremophila alpestris leucolæma COUES, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 3, July 29, 1878, 555 (localities in Montana; breeding habits, etc.).—ALLEN and BREWSTER, Auk, viii, 1883, 193 (Colorado Springs, Colorado, breeding).—BECKHAM, Auk, ii, 1885, 142 (Pueblo, Colorado).

Otocoris alpestris leucolæma (not of Dwight; not *Otocorys alpestris leucolæma* Henshaw) STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 34.—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 820 (monogr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 343 (check list no. 474c).—BAILEY (Florence M.), Auk, xxi, 1904, 355 (Upper Pecos, New Mexico, 12,000 ft.).

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[*Otocorys alpestris*] *arenicola* HENSHAW, Auk, i, July, 1884, 259 (Denver, Colorado; coll. U. S. Nat. Mus.[a]).

O[*tocorys*] *alpestris arenicola* HENSHAW, Auk, i, July, 1884, 265 (descriptions and measurements).

Otocoris alpestris arenicola AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 474*c*.—BECKHAM, Auk, iv, 1887, 124 (Pueblo, Colorado).—LLOYD, Auk, iv, 1887, 193 (w. Texas).—COOKE, Bird Migr. Miss. Val., 1888, 156 (North Dakota, e. to Devils Lake; middle and w. Kansas; Concho and Tom Green counties, w. Texas, winter).—DWIGHT, Auk, vii, 1890, 146 (monogr.).—MERRIAM, North Am. Fauna, no. 5, 1891, 99 (Idaho, breeding).—RICHMOND and KNOWLTON, Auk, xi, 1894, 304 (Montana).—THORNE, Auk, xii, 1895, 215 (Fort Keogh, Montana, breeding).

O[*tocoris*] *alpestris arenicola* RIDGWAY, Man. N. Am. Birds, 1887, 349.

O[*tocorys*] *a*[*lpestris*] *arenicola* COUES, Key N. Am. Birds, 5th ed., i, 1903, 507.

[*Otocorys leucolæma.*] Subsp. *β. Otocorys arenicola* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 540.

Otocorys arenicola SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 671.

OTOCORIS ALPESTRIS PRATICOLA Henshaw.

PRAIRIE HORNED LARK.

Similar to *O. a. leucolæma* but smaller and slightly darker, the upper parts less vinaceous, the superciliary stripe usually white; similar also to *O. a. hoyti* but much smaller, paler, and grayer above, with hindneck, etc., lighter vinaceous; similar also to *O. a. giraudi* but larger, hindneck, occiput, etc., clearer vinaceous; superciliary stripe white or yellowish white, and yellow of throat paler. Adult female similar to that of *O. a. arcticola* but decidedly smaller and usually with throat more or less yellowish; similar to that of *O. a. hoyti* but decidedly smaller, with vinaceous of lesser wing-coverts, etc., paler and more pinkish; similar also to that of *O. a. leucolæma* but darker and less buffy and slightly smaller. Young much darker than that of any other form, the general color of upper parts dark, sooty brown or sooty black, freckled with small triangular dots and bars of white, the chest pale buffy brown, heavily spotted or clouded with dusky. (Intermediate between *O. a. hoyti* and *O. a. giraudi*, but nearer the former.)

Adult male.—Length (skins), 153–160 (157); wing, 100–108 (104.2); tail, 67–73 (69.5); exposed culmen, 10–12 (11.2); tarsus, 20.5–22.5 (21.6); middle toe, 11–12 (11.7).[a]

Adult female.—Length (skins), 140–147 (143); wing, 95–105 (96.8); tail, 59–66 (61.7); exposed culmen, 10–11.5 (10.8); tarsus, 20–23 (21.5); middle toe, 11–12.5 (11.7).[b]

[a] Neither type nor type locality are designated in Mr. Henshaw's article, but the specimen selected by him as type is a breeding male from Denver, Colorado.

[b] Fifteen specimens.

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Breeding in the open districts of northeastern United States and southern Canada, from Manitoba to southern Quebec and southern Labrador, and southward to eastern Kansas, southern Illinois, Ohio, Pennsylvania, and New York (including Long Island); migrating southward to Texas, Kentucky, South Carolina, etc., casually to Colorado and Arizona. (Probably originally confined during the breeding season to the prairie districts of the upper Mississippi Valley and their extension into Manitoba, but gradually extending its range eastward through the deforested areas to the Atlantic coast.)

Eremophila alpestris ALLEN, Mem. Bost. Soc. N. M., i, 1868, 496 (Iowa); Bull. Nutt. Orn. Club, iii, 1878, 189 (Indianapolis, Indiana, breeding).—COUES, Check List, 1873, no. 53, part; 2d ed., 1882, no. 82, part.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 141, part.—HOWEY, Bull. Nutt. Orn. Club, iii, 1878, 40 (Canandaigua Co., w. New York, breeding).—DAYAN, Bull. Nutt. Orn. Club, iii, 1878, 53 (Lewis Co., n. New York, breeding).—RIDGWAY, Bull. Nutt. Orn. Club, iii, 1878, 165 (Wabash Co., Illinois, breeding); Nom. N. Am. Birds 1881, no. 300, part.—JONES, Bull. Nutt. Orn. Club, iii, 1878, 189 (Rochester, New York, breeding).—SCOTT, Bull Nutt. Orn. Club, iv, 1879, 141 (Johnson Co., w. Missouri, breeding).—ROBERTS and BENNER, Bull. Nutt. Orn. Club, v, 1880, 13 (Grant and Traverse counties, Minnesota, breeding).—PARK, Bull. Nutt. Orn. Club, vi, 1881, 177 (Green I. e. New York, breeding).—MERRIAM, Auk, vi, 1881, 231 (Lewis Co., New York, breeding).—McILWRAITH, Bull. Nutt. Orn. Club, viii, 1883, 145 (w. Ontario, breeding).—DAVISON, Auk, ii, 1885, 217 (Niagara Co., New York, breeding).

[*Eremophila alpestris*] var. *alpestris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 140, 143, part.

Otocoris alpestris KENNICOTT, Rep. Illinois Agric. Soc., i, 1855, 584 (Illinois, breeding).—AGERSBORG, Auk, ii, 1885, 282 (s. e. South Dakota, breeding).

Eremophila cornuta (not *Alauda cornuta* Wilson) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 403, part; Cat. N. Am. Birds, 1859, no. 302, part.—WHEATON, Ohio Agric. Rep. for 1860, 365 (Ohio, breeding).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 32, fig. 2 (young).—DAVIS, Oologist, iv, 1878,—(centr. New York, breeding).

Otocoris rufa (not *Alauda rufa* Audubon) HOY, Proc. Ac. Nat. Sci. Philad., vi, 1853, 382 (Wisconsin, breeding).

Eremophila alpestris, var. *leucolæma* (not of Coues) NELSON, Bull. Essex Inst., viii, 1876, 110 (n. e. Illinois, breeding).

O[tocorys] alpestris praticola HENSHAW, Auk, i, July, 1884, 264 (Richland Co., Illinois; coll. U. S. Nat. Mus.).

Otocoris alpestris praticola AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 474*b*.—LOOMIS, Auk, iv, 1887, 255 (Chester Co., South Carolina, Dec.); v, 1888, 206 (do., Dec. to Feb.); viii, 1891, 56–59 (do., migrations, measurements, etc.).—PARK, Auk, v, 1888, 111 (Green I., New York, breeding).—BREWSTER, Auk, v, 1888, 111 (Revere Beach, Massachusetts, Feb.); vi, 1889, 71 (Great I., Massachusetts, Dec.); xi, 1894, 326 (near Pittsfield, Massachusetts, breeding).—SMITH and PALMER, Auk, v, 1888, 148 (District Columbia, Feb.).—DUTCHER, Auk, v, 1888, 170, 180 (Long Island, New York, breeding).—HARRIS, Auk, v, 1888, 320 (Buffalo, New York, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 156 (Mississippi Valley range; Manitoba, breeding).—RIDGWAY, Orn. Illinois, i, 1889, 338.—SENNETT, Auk, vi, 1889, 198 (Erie, w. Penn-

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sylvania, breeding).—DWIGHT, Auk, vii, 1890, 144 (monogr.); ix, 1892, 202 (Bradford Co., Pennsylvania, breeding).—TODD, Auk, viii, 1891, 236 (Butler Co., w. Pennsylvania, breeding), 395 (Beaver Co., w. Pennsylvania, breeding).—FAXON, Auk, ix, 1892, 201 (Franconia, New Hampshire, and North Adams and Williamstown, Massachusetts, breeding).—ATTWATER, Auk, ix, 1892, 237 (San Antonio, Texas, winter).—STONE, Birds E. Penn. and New Jersey, 1894, 102 (Delaware Co., Pennsylvania).—MORRIS, Auk, xvi, 1899, 85 (Springfield, Massachusetts, winter).—HOWELL, Auk, xviii, 1901, 341 (Mount Mansfield, Vermont, breeding).—NORTON, Proc. Portland Soc. N. H., ii, 1901, 153 (Choteau Bay, s. Labrador, July 14; crit.).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 825 (monogr.).—ALLEN (G. M.), Proc. Manchester Inst., iv, 1902, 123 (New Hampshire, breeding locally).—TODD, Ann. Carnegie Mus., ii, 1904, 564 (Erie Co., Pennsylvania, breeding; habits).—WOOD and FROTHINGHAM, Auk, xxii, 1905, 49 (Oscoda Co., n. Michigan, breeding).

O[tocoris] alpestris praticola RIDGWAY, Man. N. Am. Birds, 1887, 348.

O[tocorys] a[lpestris] praticola COUES, Key N. Am. Birds, 5th ed., i, 1903, 506.

[Otocorys leucolæma.] Subsp. *α. Otocorys praticola* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 539, part[a].

Otocoris alpestris giraudi (not of Henshaw) BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 668, part (San Antonio, Texas).

OTOCORIS ALPESTRIS DIAPHORA Oberholser.

TAMAULIPAS HORNED LARK.

Very similar to *O. a. praticola*, but smaller, with back less grayish (more brown or buffy) and less distinctly streaked with dusky; similar also to *O. a. chrysolæma* but smaller, with hindneck, etc., decidedly paler vinaceous; similar also to *O. a. aphrasta*, but upper parts less cinnamomeous and back more distinctly streaked with dusky. Adult female similar to that of *O. a. chrysolæma*, but decidedly smaller. Young very similar to those of *O. a. enthymia*, *O. a. giraudi*, and *O. a. leucolæma*, but averaging grayer above than the last. (Intermediate between *O. a. giraudi* and *O. a. chrysolæma;* intergrading also with *O. a. aphrasta.*)

Adult male.—Length (skins), 152–162 (158); wing, 96.5–103 (99.4); tail, 64.5–70.5 (67.5); exposed culmen, 11–12 (11.3); tarsus, 21–22.5 (21.7); middle toe, 11–12 (11.4).[b]

Adult female.—Length (skins), 140–154 (149);[c] wing, 89; tail, 56; exposed culmen, 11.5; tarsus, 20.5; middle toe, 10.5.[d]

Southern Tamaulipas (Miquihuana), Hidalgo (Irolo; Tula; Pachuca; Real del Monte) and (in winter) Oaxaca (Tamazulapam, November 14).

Otocoris alpestris diaphora OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 829 (Miquihuana, Tamaulipas, e. Mexico; coll. U. S. Nat. Mus.).

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[a] Most of the specimens enumerated belong to this form, but some of them evidently do not; for example, specimens *g*, *h*, and *i*, from British Columbia (which probably = *O. a. merrilli*); also *a*, *b*, and *c*, from "N. W. America" and *d* from Fort Simpson. The synonymy contains many errors of citation.

[b] Seven specimens. [c] Three specimens. [d] One specimen.

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OTOCORIS ALPESTRIS GIRAUDI Henshaw.

TEXAS HORNED LARK.

Similar to *O. a. praticola*, but smaller, upper parts slightly grayer, hindneck, lesser wing-coverts, etc., less distinctly vinaceous (more grayish), back less distinctly or broadly streaked, and yellow of throat usually deeper, the superciliary stripe usually also more or less yellowish; similar also to *O. a. diaphora* but slightly smaller, upper parts decidedly grayer, and hindneck much less vinaceous. Adult female most like that of *O. a. praticola* but decidedly smaller and very much grayer (even the lesser wing-coverts scarcely if at all tinged with vinaceous), and whole throat decidedly (usually deep) yellow. Young similar to that of *O. a. leucolæma* but darker and less buffy, the general color of upper parts broccoli brown, relieved by terminal dots of buffy whitish and subterminal spots, bars, or streaks of dusky; much paler and grayer than that of *O. a. praticola*. (A frequent but not constant feature in this form is the presence of more or less of pale yellow on the under parts of the body, usually on the breast just below the black jugular patch, but sometimes extending to the flanks, in this respect resembling *O. a. strigata* of the northwest coast district.)

Adult male.—Length (skins), 142–155 (148); wing, 92–102 (96.8); tail, 56.5–66 (62.2); exposed culmen, 9.5–11 (10.5); tarsus, 20.5–22.5 (21.8); middle toe, 10.5–12 (11.1).[a]

Adult female.—Length (skins), 144–147 (145); wing, 87–93.5 (90.2); tail, 52.5–59 (55.9); exposed culmen, 10–11 (10.3); tarsus, 20.5–22.5 (21.4); middle toe, 10–12 (10.8).[a]

Coast district of Texas, and northeastern Tamaulipas, from Galveston Bay to just across the mouth of the Rio Grande. (Resident and apparently isolated geographically, unless meeting the range of *O. a. diaphora* in Tamaulipas.)

(?) *Otocoris alpestris* (not *Alauda alpestris* Linnæus) McCall, Proc. Ac. Nat. Sci. Philad., 1851, 218 (Texas).

Eremophila cornuta . . . (var. *occidentalis*) (not *Otocoris occidentalis* McCall) Dresser, Ibis, 1865, 486, part (Galveston, Texas).

Eremophila alpestris, var. *chrysolæma* (not *Alauda chrysolaema* Wagler) Merrill, Proc. U. S. Nat. Mus., i, 1878, 129 (Fort Brown, Texas).

Eremophila alpestris chrysolæma Sennett, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 1, 1878, 9 (Brownsville, Texas).

[*Otocorys alpestris*] *giraudi* Henshaw, Auk, i, July, 1884, 260 (s. e. Texas; crit., etc.)

O[*tocorys*] *alpestris giraudi* Henshaw, Auk, i, July, 1884, 263, 266 (Corpus Christi, Texas; coll. U. S. Nat. Mus.).

Otocoris alpestris giraudi American Ornithologists' Union, Check List, 1886, no. 474*d*.—Cooke, Bird Migr. Miss. Val., 1888, 156 (e. and s. e. Texas).—Beckham, Proc. U. S. Nat. Mus., x, 1888, 668, part (Corpus Christi, Texas).—Dwight, Auk, vii, 1890, 145 (crit.).—Oberholser, Proc. U. S. Nat. Mus., xxiv, 1902, 831 (monogr.).

[a] Fifteen specimens.

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O[tocoris] alpestris giraudi RIDGWAY, Man. N. Am. Birds, 1887, 349.
O[tocorys] a[lpestris] giraudi COUES, Key N. Am. Birds, 5th ed., i, 1903, 507.
[*Otocorys alpestris.*] Subsp. δ. *Otocorys giraudi* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 549 (Corpus Christi).

OTOCORIS ALPESTRIS MERRILLI Dwight.

DUSKY HORNED LARK.

Similar to *O. a. giraudi*, but decidedly larger, back more broadly streaked with dusky, and hindneck darker and more rufescent; still more like *O. a. praticola* (both in size and coloration) and sometimes scarcely distinguishable,[a] but dusky streaks of back, etc., usually broader and blacker, and superciliary stripe usually yellow; similar also to *O. a. leucolæma* but slightly smaller and much darker, with ground color of upper parts grayer; differing from *O. a. strigata* in being decidedly larger, much grayer above, with streaks narrower and dusky instead of black, and (usually) without yellow on under parts. Adult female similar to that of *O. a. praticola* but slightly grayer and darker; sides of breast darker and conspicuously streaked with dusky, and size slightly smaller. Young "not with certainty distinguishable from specimens of *praticola* of the same age."[b] (Intermediate between *O. a. leucolæma* and *O. a. strigata*.)

Adult male.—Length (skins), 154–165 (159); wing, 98.5–106 (102.9); tail, 64–72 (69); exposed culmen, 10–12.5 (11); tarsus, 20.5–22.5 (21.6); middle toe, 11–12 (11.5).[c]

Adult female.—Length (skin), 136; wing, 94–102 (97.1); tail, 58.5–66 (62.8); exposed culmen, 9.5–12 (10.6); tarsus, 19–22 (21.2); middle toe, 10–12 (11.3).[c]

Breeding in northwestern semiarid districts of the United States, from northwestern Nevada (along base of Sierra Nevada) and northeastern California (Placer, Sierra Nevada, Plumas, Lassen, Modoc, Shasta, and Siskiyou counties) through Oregon and Washington east

[a] This form is, like the *Penthestes* of nearly the same geographic area, another example of the very close similarity of intermediates between a darker and a paler form to one belonging to a widely separated geographic area. In the present case, *O. a. merrilli* is intermediate in coloration between *O. a. strigata* and *O. a. leucolæma*, the former being darker, the latter paler; and intermediates between *O. a. merrilli* and *O. a. leucolæma* are so precisely similar to *O. a. praticola* of the Atlantic States that if mixed with a series of the latter they probably could not be separated without reference to the labels. On the summit of the Sierra Nevada, about Lake Tahoe, birds of this genus have been taken which, while apparently *O. a. strigata* seem to be, according to Mr. Oberholser's views (Proc. U. S. Nat. Mus., xxiv, 1902, 835, 836), merely intermediates between *O. a. merrilli* and *O. a. rubea*—another example of the same sort of mimicry. (For remarks concerning the case of *Penthestes atricapillus* from the same region see Part III, p. 398.)

[b] Oberholser, Proc. U. S. Nat. Mus., xxiv, 1902, 834.

[c] Fifteen specimens.

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of the Cascade Mountains to southeastern British Colombia (Chilliwack; Kamloops; Osoyos; Ashcroft; Sumas Lake), and northwestern Idaho (Post Falls); central California during migration.

Otocoris alpestris (not *Alauda alpestris* Linnæus) NEWBERRY, Rep. Pacific R. R. Survey, x, pt. iv, chap. ii, 1857, 88, part (Des Chutes basin, Oregon).

Eremophila alpestris BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 141, part.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 227 (Walla Walla, e. Washington).

Eremophila cornuta (not *Alauda cornuta* Wilson) COOPER and SUCKLEY, Rep. Pacific R. R. Survey, xii, pt. ii, 1860, 195, part (e. Oregon and Washington).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 140, 143, part, pl. 32, fig. 1.

Eremophila alpestris chrysolæma (not *Alauda chrysolaema* Wagler) RIDGWAY, Bull. Essex Inst., vii, 1875, 11, 13 (Carson Valley, Nevada, breeding).

[*Otocorys alpestris*] *arenicola* HENSHAW, Auk, i, 1884, 259, part.

Eremophila alpestris var. ———? MEARNS, Bull. Nutt. Orn. Club, iv, 1889, 163 (Fort Klamath, e. Oregon).

Otocoris alpestris strigata (not of Henshaw) MERRILL, Auk, v, 1888, 259 (Fort Klamath; habits; descr. nest, etc.).—BREWSTER, Auk, v, 1888, 260 (descr. young).

Otocoris alpestris merrilli DWIGHT, Auk, vii, April, 1890, 153 (Fort Klamath, Oregon; coll. W. Brewster).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 474*i*.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599.—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 833 (monogr.).—RAY, Auk, xx, 1903, 185 (Lake Valley, California, Oct.).—SNODGRASS, Auk, xx, 1903, 206 (Big Bend district, centr. Washington); xxi, 1904, 229 (Yakima, Garfield, and Columbia counties, etc., centr. and s. e. Washington).

O[*tocorys*] a[*lpestris*] *merrilli* COUES, Key N. Am. Birds, 5th ed., i, 1903, 508.

[*Otocorys alpestris.*] Subsp. *η. Otocorys merrilli* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 670.

Otocoris alpestris leucolæma (not *Eremophila alpestris*, b. *leucolæma* Coues) BARLOW, Condor, iii, 1901, 167 (Lake Valley, California, 6,400 ft., Oct.; cf. Grinnell, Condor, iv, 1902, 17).

OTOCORIS ALPESTRIS STRIGATA Henshaw.

STREAKED HORNED LARK.

Most like *O. a. insularis*, but upper parts slightly paler and more brown or buffy (less grayish) with streaks more blackish, color of hindneck, lesser wing-coverts, etc., lighter vinaceous-cinnamon, and under parts of body more or less tinged with yellow; similar also to *O. a. merrilli* but decidedly smaller, upper parts much browner or more buffy (less grayish) with streaks broader and much more blackish, and under parts of body more or less (sometimes strongly and wholly) suffused with yellow. Adult female most like those of *O. a. insularis* and *O. a. actia*, but ground color of upper parts more yellowish or buffy, back broadly and conspicuously streaked with black, lesser wing-coverts deep vinaceous-cinnamon or cinnamon-rufous, in conspicuous contrast with general coloration, and under parts more or less yellowish. Young similar to those of *O. a. merrilli*

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and *O. a. praticola* but more buffy or ochraceous. (The extreme streaked and yellow type.)

Adult male.—Length (skins) 144–160 (152); wing, 96–101 (98); tail, 61.5–68.5 (65.8); exposed culmen, 10–12.5 (11.3); tarsus, 19.5–22 (20.8); middle toe, 10.5–12.5 (11.4).[a]

Adult female.—Length (one skin), 137; wing, 90–93.5 (92); tail, 56.5–63.5 (59.6); exposed culmen, 9–11 (10.2); tarsus, 19–21.5 (20.4); middle toe, 11–12.5 (11.7).[b]

Breeding in Oregon and Washington west of the Cascade Mountains; migrating to eastern Oregon and Washington and northern California (Red Bluff; San Francisco).

(?) *Alauda cornuta* (not of Wilson) TOWNSEND, Journ. Ac. Nat. Sci. Philad., viii, 1839, 154.

Eremophila cornuta (not *Alauda cornuta* Wilson) BAIRD, Rep. Pacific R. R. Survey, ix, 1858, 403, part; Cat. N. Am. Birds, 1859, no. 302, part.—COOPER and SUCKLEY, Rep. Pacific R. R. Survey, xii, pt. ii, 1860, 195, part (Fort Steilacoom, Washington).—(?) BROWN, Ibis, 1868, 421 (Vancouver I.).—COOPER, Orn. Cal., i, 1870, 251, part (Puget Sound).

Eremophila alpestris (not *Alauda alpestris* Linnæus) BELDING, Proc. U. S. Nat. Mus., i, 1878, 423 (Marysville, California, Feb.; Summit Meadows, California, Oct.).

[*Eremophila alpestris.*] Var. *chrysolæma* (not *Alauda chrysolaema* Wagler) BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 144, part ("*b.* Specimens from coast of Oregon and Washington Territory").

[*Otocorys alpestris*] *strigata* HENSHAW, Auk, i, July, 1884, 261 (crit., etc.).

O[*tocorys*] *alpestris strigata* HENSHAW, Auk, i, July, 1884, 264, 267 (Fort Steilacoom, Washington; coll. U. S. Nat. Mus.).

Otocoris alpestris strigata AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 474*g*.—ANTHONY, Auk, iii, 1886, 166 (Washington Co., Oregon; breeding).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 210 (Red Bluff, n. California, Dec.).—DWIGHT, Auk, vii, 1890, 151, part (excl. syn. *insularis*, Townsend).—MILLER, Auk, viii, 1891, 314 (Salem, Oregon; descr. young).—LAWRENCE (R. H.), Auk, ix, 1892, 45 (upper Quinicault, Humptulips, etc., Grays Harbor, Washington, Apr. to June).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 837 (monogr.).

O[*tocoris*] *alpestris strigata* RIDGWAY, Man. N. Am. Birds, 1887, 349.

O[*tocorys*] *a*[*lpestris*] *strigata* COUES, Key N. Am. Birds, 5th ed., i, 1903, 507.

[*Otocorys alpestris.*] Subsp. *ε. Otocorys strigata* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 549, part (excl. specimen *f*, Santa Barbara, California [c]).

OTOCORIS ALPESTRIS INSULARIS Townsend.

ISLAND HORNED LARK.

Very similar to *O. a. strigata*, but upper parts slightly darker and less brown or buffy (grayer) with streaks less blackish, hindneck, lesser wing-coverts, etc., darker vinaceous-cinnamon, and under parts

[a] Fourteen specimens.

[b] Ten specimens.

[c] I am very doubtful whether specimens *e*, Marin Co., California, and *p–g′* and *h′–m′*, Carson, Nevada, are properly placed. Specimens from the former locality in the U. S. National Museum collection are all *O. a. actia*, while those from the latter locality are *O. a. merrilli*.

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of body usually (always?) without yellow; similar also to *O. a. actia* but decidedly darker. Adult female most like that of *O. a. strigata* but darker above, with dusky streaks more uniformly distributed (those of hindneck and pileum much broader), the streaks not so black, the hindneck almost without rufous tinge, the lesser wing-coverts much less deeply rufescent, and under parts of body white instead of yellowish; similar also to that of *O. a. actia* but upper parts much more broadly streaked with dusky. Young similar to that of *O. a. actia* but darker and less ochraceous, and under parts tinged with yellow.

(The characters of their form are most pronounced in specimens from the more northern islands of San Miguel, Santa Rosa, and Santa Cruz, those from the more southern islands of San Clemente, Santa Barbara, San Nicolas, and Santa Catalina inclining toward the mainland form, *O. a. actia*, thus indicating the origin of this insular form.)[a] (Intermediate between *O. a. strigata* and *O. a. actia*.)

Adult male.—Length (skins), 145–164 (155); wing, 95–101 (97.1); tail, 60–68 (64.4); exposed culmen, 10–13 (11.3); tarsus, 21–23 (22); middle toe, 11–13 (11.9).[b]

Adult female.—Length (one skin), 135; wing, 88–97 (91.4); tail, 55–63 (58.8); exposed culmen, 10–12.5 (11.4); tarsus, 20–22.5 (21.3); middle toe, 11–12.5 (11.7).[b]

Santa Barbara Islands (San Clemente, Santa Cruz, San Miguel, Santa Rosa, Santa Barbara, San Nicolas, and Santa Catalina), California; resident.

Eremophila alpestris . . . var. *chrysolæma* (not *Alauda chrysolaema* Wagler) HENSHAW, Rep. Wheeler's Survey, 1876, App. JJ, 248 (Santa Cruz I., California).

Otocoris alpestris rubea (not of Henshaw, 1884) HENSHAW, Auk, iii, 1886, 453, in text (Santa Cruz I., California).

Otocoris alpestris —— BLAKE, Auk, iv, 1887, 329 (Santa Cruz I.).

Otocoris alpestris strigata (not of Henshaw) DWIGHT, Auk, vii, April, 1890, 151, part (Santa Cruz Islands).

Otocoris alpestris insularis TOWNSEND, Proc. U. S. Nat. Mus., xiii, no. 799, Sept. 9, 1890, 140 (San Clemente I., California; coll. U. S. Nat. Mus.), 141 (Santa Rosa I., Santa Cruz I.).—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599.—GRINNELL, Pub. 1, Pasadena Acad. Sci., 1897, 5 (Santa Barbara I.), 10 (San Nicolas I.), 16 (San Clemente I.; descr. nest and eggs).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 839 (monogr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 345 (check list no. 474*m*).

Otocoris insularis GRINNELL, Check List California Birds, 1902, 45.

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[a] As Mr. Oberholser remarks, "that *insularis* should have been differentiated toward *strigata* is . . . an interesting case of parallel development." Mr. Oberholser also says that "by reason of the evident approach to *actia* from island to island, which would in a continental distribution culminate in complete inosculation, and the noticeable resemblance to *strigata*, it seems advisable to consider *insularis* as a subspecies in spite of its island habitat"—a view with which my own entirely agrees.

[b] Fifteen specimens.

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OTOCORIS ALPESTRIS CHRYSOLÆMA (Wagler).

MEXICAN HORNED LARK.

Similar to *O. a. insularis*, but larger, upper parts browner, with streaks on back much less dusky, hindneck, lesser wing-coverts, etc., more vinaceous, and throat deeper yellow; still more like *O. a. diaphora*, but decidedly larger and with vinaceous of hindneck, etc., deeper; most like *O. a. actia* in coloration, but decidedly larger and throat deeper yellow. Adult female similar to that of *O. a. actia* but slightly larger, upper parts more buffy (less yellowish) grayish brown, lesser wing-coverts deeper and more uniform vinaceous-cinnamon, and throat brighter yellow; similar in coloration to that of *O. a. oaxacæ* but decidedly larger. Young similar to that of *O. a. praticola*, and sometimes scarcely distinguishable, but usually browner and not quite so dark.

Adult male.—Length (skins), 150–158 (153); wing, 98.5–106.5 (102.9); tail, 64–71.5 (68.8); exposed culmen, 10–12 (10.9); tarsus, 20–23.5 (21.4); middle toe, 10.5–12 (11.2).[a]

Adult female.—Length (one skin), 149; wing, 91–96.5 (94.8); tail, 58–63 (60.6); exposed culmen, 9.5–11 (10.5); tarsus, 20–22 (21.3); middle toe, 10–11.5 (11.1).[a]

Southern portion of Mexican plateau, in States of Vera Cruz (Perote; 40 miles west of Mirador), Puebla (Puebla; Atlixco; San Martin; Chalchicomula), Mexico (Valley of Mexico; Ajusco; Salazar; Valley of Toluca; Amecameca), Tlaxcala (Apexoco; Huamantla), Zacatecas (Plateado), Guanajuato (Silao), and eastern Jalisco (Mesquitic); resident.

Alauda chrysolaema WAGLER, Isis, 1831, 530 (Mexico).

[*Eremophila alpestris*] var. *chrysolæma* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 144, part.

Otocoris alpestris chrysolæma STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 34.—DWIGHT, Auk, vii, 1890, 149, part (monogr.).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 842 (monogr.).

O[tocoris] alpestris chrysolæma RIDGWAY, Man. N. Am. Birds, 1887, 349, part.

O[tocorys] chrysolaema CABANIS, Mus. Hein., i, 1851, 122 (Mexico).

Otocorys chrysolæma SCLATER, Proc. Zool. Soc. Lond., 1856, 306 (Mexico).

Eremophila chrysolæma SCLATER, Proc. Zool. Soc. Lond., 1864, 174 (City of Mexico)

[*Eremophila*] *chrysolæma* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 40.

[*Otocorys alpestris*] *chrysolæma* HENSHAW, Auk, i, July, 1884, 260, part.

E[remophila] a[lpestris] chrysolæma COUES, Key N. Am. Birds, 2d ed., 1884, 282, part.

(?) *Phileremos cornutus* (not *Alauda cornuta* Wilson) BONAPARTE, Proc. Zool. Soc. Lond., 1837, 111 (Mexico).

Alauda minor (not of Gmelin) GIRAUD, Sixteen Species North Am. Birds, 1841, 33 ("Texas;" type now in coll. U. S. Nat. Mus.).

(?) *Eremophila minor* SCLATER, Cat. Am. Birds, 1862, 126.

[a] Fifteen specimens.

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[*Otocoris*] *minor* GRAY, Hand-list, ii, 1870, 117, no. 7740.

(?) [*Otocorys alpestris.*] Subsp. *γ*. *Otocorys rubea* (not *Otocorys alpestris rubeus* Henshaw) SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 548, part (Zacatecas, Mexico).

OTOCORIS ALPESTRIS ACTIA Oberholser.

CALIFORNIA HORNED LARK.

Similar to *O. a. chrysolæma*, but decidedly smaller, with general color of upper parts slightly paler, color of hindneck, lesser wing-coverts, etc., slightly less pinkish (more rufescent) vinaceous, and yellow of throat and superciliary stripe paler; similar also to *O. a. insularis* but paler. Adult female similar to that of *O. a. chrysolæma* but slightly smaller; general color of upper parts more yellowish (less buffy), grayish brown, lesser wing-coverts less deeply or uniformly vinaceous-cinnamon, throat paler yellow, and sides of breast less vinaceous and more distinctly streaked; similar also to that of *O. a. ammophila* but much darker. Young similar to that of *O. a. adusta* but chest deeper brownish buff or buffy brown. (Intermediate between *O. a. insularis* and *O. a. ammophila.*)

Adult male.—Length (skins), 150–157 (153); wing, 94–102.5 (99.1); tail, 62–70 (65.9); exposed culmen, 10–12.5 (11); tarsus, 20–21.5 (20.8); middle toe, 10.5–12 (11.5).[a]

Adult female.—Length (skins), 138–147 (142); wing, 87–96 (93); tail, 54.5–63 (58.8); exposed culmen, 8.5–12 (10.6); tarsus, 17.5–21.5 (20.2); middle toe, 9.5–12 (10.8).[a]

Coast district of northern Lower California (south to Santa Rosalia Bay) and southern California (north to San Francisco Bay), and San Joaquin Valley, including western foothills of Sierra Nevada, from Calaveras County southward; resident.

Alauda rufa (not of Gmelin) AUDUBON, Birds Am., vii, 1844, 353, pl. 497.—HEERMANN, Journ. Ac. Nat. Sci. Philad., ii, 1852, 265, part ? (plains of California).

Otocoris rufa HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, no. 2, 1859, 45 (s. California).

Eremophila cornuta (not *Alauda cornuta* Wilson) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 403, part; Cat. N. Am. Birds, 1859, no. 302, part.

[*Eremophila cornuta.*] Var. *chrysolæma* (not *Alauda chrysolaema* Wagler) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 403, in text, part.

[*Eremophila alpestris.*] Var. *chrysolæma* COUES, Key N. Am. Birds, 1872, 89, part.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 144, part (California).

Eremophila alpestris. . . var. *chrysolæma* COUES, Check List, 1873, no. 53*a*.—HENSHAW, Rep. Wheeler's Survey, 1876, App. JJ, 248, part (Santa Barbara, California).

Eremophila alpestris chrysolæma RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24 1880, 185; Nom. N. Am. Birds, 1881, no. 300*b*, part.—COUES, Check List, 2d ed., 1882, no. 84, part.

[a] Fifteen specimens.

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E[remophila] a[lpestris] chrysolæma COUES, Key N. Am. Birds, 2d ed., 1884, 282, part.

[*Eremophila alpestris.*] c. *chrysolæma* COUES, Birds Northwest, 1874, 38, part.

Otocoris alpestris chrysolæma STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 34, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 474*c*, part.—DWIGHT, Auk, vii, 1890, 149, part (crit.).—ANTHONY, Zoe, iv, 1893, 238 (Pacific coast, Lower California, s. to Colnett).—GRINNELL, Pub. 2, Pasadena Acad. Sci., 1898, 31 (Los Angeles Co., California, resident).

Otocorys alpestris chrysolæma BELDING, Proc. U. S. Nat. Mus., v, 1882, 530 (San Quentin Bay, Lower California).

O[tocoris] alpestris chrysolæma RIDGWAY, Man. N. Am. Birds, 1887, 349, part.

O[tocorys] a[lpestris] chrysolæma COUES, Key N. Am. Birds, 5th ed., i, 1903, 508, part.

[*Otocorys alpestris*] *chrysolæma* HENSHAW, Auk, i, July, 1884, 260, part (crit.).

O[tocorys] alpestris chrysolæma HENSHAW, Auk, i, 1884, 263, part (descriptions, etc.).

O[tocorys] alpestris rubeus HENSHAW, Auk, i, July, 1884, 263, 267, part (Santa Rosalia Bay, Lower California).

Otocoris alpestris rubea EVERMANN, Auk, iii, 1886, 181 (Ventura Co., California).—JEFFRIES, Auk, vi, 1889, 222 (Santa Barbara, California).—COALE, Auk, xi, 1894, 219 (San Diego, California).

Otocoris alpestris actia OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 845 (Jacumba, San Diego Co., California; coll. U. S. Nat. Mus.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 344 (check list no. 474*e*).

Otocoris alpestris pallida (not of Dwight, ex Townsend) ANTHONY, Zoe, iv, 1893, 238 (San Quentin Bay, Lower California, breeding); Auk, xii, 1895, 140 (San Fernando, Lower California).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 474*j*, part.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599, part.

OTOCORIS ALPESTRIS AMMOPHILA Oberholser.

MOJAVE HORNED LARK.

Similar to *O. a. actia* but slightly larger and with upper parts much paler; similar also to *O. a. leucolæma* but decidedly smaller and color of hindneck, lesser wing-coverts, etc., more cinnamomeous (less vinaceous). Adult female similar to that of *O. a. aphrasta* but slightly smaller and throat paler yellow; similar to that of *O. a. actia* but much paler and averaging slightly smaller. Young similar to that of *O. a. leucolæma* and often not distinguishable, but perhaps averaging slightly darker. (Intermediate between *O. a. actia* and *O. a. leucolæma*, but nearer the former.)

Adult male.—Length (one skin), 155; wing, 96–103.5 (100.2); tail, 65–72 (67.7); exposed culmen, 10–12.5 (11.4); tarsus, 19–22.5 (21.1); middle toe, 10–12.5 (11.4).[a]

Adult female.—Length (one skin), 135; wing, 90–96 (92.6); tail, 57.5–63.5 (59.5); exposed culmen, 9.5–11.5 (10.3); tarsus, 19.5–22 (20.6); middle toe, 10.5–11.5 (11.1).[b]

[a] Fifteen specimens. [b] Ten specimens.

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Breeding along the western and northern borders of the Colorado Desert, from Inyo County (Owens Lake, etc.) to San Diego County (Bongo Spring; Santa Ysabel), southeastern California; migrating southward to the Arizona-Mexico boundary line.

Otocoris alpestris arenicola (not of Henshaw) FISHER (A. K.), North Am. Fauna, no. 7, 1893, 66, part (Coso Valley, Mojave Desert, and Darwin, s. e. California).

Otocoris alpestris chrysolæma (not *Alauda chrysolaema* Wagler) FISHER (A. K.), North Am. Fauna, no. 7, 1893, 67, part (Panamint Mts., s. e. California).

Otocoris alpestris ammophila OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 349 (Coso Valley, s. e. California; coll. U. S. Nat. Mus.).

OTOCORIS ALPESTRIS RUBEA Henshaw.

RUDDY HORNED LARK.

Most like *O. a. actia*, but much more rufescent, the occiput, hindneck, shorter upper tail-coverts, lesser wing-coverts, and sides of breast deep chestnut-vinaceous or dark vinaceous-rufous, the back decidedly brown, broadly streaked with darker. Adult female most like that of *O. a. oaxacæ*, but darker and browner above, with hindneck distinctly rufescent; similar also to that of *O. a. alpestris*, but much smaller, back browner with spots less dark, and hindneck and sides of breast more rufescent. Young[a] similar to that of *O. a. chrysolæma*, but upper parts browner and not quite so dark, and chest more buffy, with spots much less dark. (The extreme rufescent type.)

Adult male.—Length (skins), 153–165 (159); wing, 94.5–105 (99.6); tail, 64.5–71 (67.2); exposed culmen, 10–12 (11); tarsus, 20–23.5 (21.7); middle toe, 10.5–13 (11.8).[b]

Adult female.—Length (skins), 145–152 (148); wing, 89–95.5 (92.4); tail, 55–62.5 (59.5); exposed culmen, 9.5–11.5 (10.1); tarsus, 20–22 (20.8); middle toe, 10.5–12 (11.3).[c]

Sacramento Valley, California.[d]

Alauda rufa (not of Gmelin) HEERMANN, Journ. Ac. Nat. Sci. Philad., ii, 1852, 265, part 2 (plains of California).

Otocoris alpestris (not *Alauda alpestris* Linnæus) NEWBERRY, Rep. Pacific R. R., Surv., x, pt. iv, chap. ii, 1855, 88, part (Sacramento Valley).

[*Eremophila cornuta.*] Var. *chrysolæma* (not *Alauda chrysolaema* Wagler) BAIRD, Rep. Pacific R. R. Survey, ix, 1858, 403, part.

Eremophila alpestris. . . var. *chrysolæma* COUES, Check List., 1873, no. 53*a*, part.

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[a] From Calaveras County.

[b] Fifteen specimens.

[c] Twelve specimens.

[d] Although the alleged type locality of this form is Stockton, it is very doubtful whether the type really came from that place; in fact the locality is queried on the original label. The birds breeding in the vicinity of Stockton are, as Mr. Oberholser states (Proc. U. S. Nat. Mus., xxiv, 1902, 852), more like *O. a. actia* than *O. a. rubea*, and, though not typical of the former, are best referred to it.

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[*Eremophila alpestris.*] Var. *chrysolæma* COUES, Key N. Am. Birds, 1872, 89, part.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am Birds, ii, 1874, 144, part.

[*Eremophila alpestris*] c. *chrysolæma* COUES, Birds Northwest, 1874, 38, part.

Eremophila alpestris chrysolæma RIDGWAY, Bull. Essex. Inst., Oct., 1874, 172 (Sacrament Valley).—COUES, Check List, 2d ed., 1882, no. 84, part.

Eremophila alpestris, β. chrysolæma BELDING, Proc. U. S. Nat. Mus., i, 1879, 423 (Marysville, Cal.).

[*Otocorys alpestris*] *rubeus* HENSHAW, Auk, i, July, 1884, 260 (crit., etc.).

[*Otocorys*] *alpestris rubeus* HENSHAW, Auk, i, July, 1884, 263, 267, part ("Stockton", California; coll. U. S. Nat. Mus.)

Otocoris alpestris rubea AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 474*f*.—TOWNSEND (B. H.), Proc. U. S. Nat. Mus., x, 1887, 210 (upper Sacramento Valley, California; habits; descr. nest and eggs).—DWIGHT, Auk, vii, 1890, 150 (crit.).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 851 (monogr.).

O[tocoris] alpestris rubea RIDGWAY, Man. N. Am. Birds, 1887, 349.

O[tocorys] a[lpestris] rubea COUES, Key N. Am. Birds, 5th ed., i, 1903, 508.

[*Otocorys alpestris.*] Subsp. *γ. Otocorys rubea* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 548, part (excl. specimens *d'–g'*, Zacatecas, Mexico, and *h'–l'*, Oaxaca, Mexico).

OTOCORIS ALPESTRIS OAXACÆ Nelson.

OAXACA HORNED LARK.

Similar to *O. a. actia*, but decidedly smaller, vinaceous of hindneck, etc., deeper, ground color of back slightly more buffy, and yellow of throat deeper; somewhat like *O. a. rubea*, but upper parts darker and less rufescent (more vinaceous) and size smaller; differing from *O. a. chrysolæma* in much smaller size and decidedly more rufescent and more uniform color of upper parts. Adult female similar to that of *O. a. chrysolæma*, but more buffy or cinnamomeous above and much smaller. Young[a] most like that of *O. a. actia*, but spots on upper parts white instead of buff, throat yellow, and chest more distinctly streaked on a paler buffy ground.

Adult male.—Length (skins), 155–158 (156); wing, 94.5–99 (96.8); tail, 58–66 (61.3); exposed culmen, 11–12 (11.5); tarsus, 21–23.5 (21.9); middle toe, 10.5–13 (11.9).[b]

Adult female.—Length (one skin), 145; wing, 87–90.5 (89.3); tail, 53–57 (55.5); exposed culmen, 10–11 (10.6); tarsus, 20–22 (21); middle toe, 11–12 (11.4).[c]

Southern Oaxaca (San Mateo del Mar; Mitla; Tehuantepec), southern Mexico; resident.

Otocorys chrysolæma (not *Alauda chrysolaema* Wagler) SCLATER, Proc. Zool. Soc. Lond., 1859, 372 (Oaxaca, Mexico; crit.).

[a] From Mitla, Oaxaca, from which locality adults differ so much from those from the type locality (San Mateo del Mar) that they almost certainly require separation.

[b] Ten specimens.

[c] Four specimens.

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[*Otocorys alpestris.*] Subsp. γ. *Otocorys rubea* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 548, part (Oaxaca).

Otocoris alpestris pallida (not of Townsend) DWIGHT, Auk, vii, 1890, 154–155, part (Tehuantepec, Oaxaca).

Otocoris alpestris oaxacæ NELSON, Auk, xiv, Jan., 1897, 54 (San Mateo del Mar Oaxaca, s. e. Mexico; coll. U. S. Nat. Mus.).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 854 (monogr.).

OTOCORIS ALPESTRIS OCCIDENTALIS (McCall).

MONTEZUMA HORNED LARK.

Similar to *O. a. leucolæma*, but decidedly larger, back much more buffy or cinnamomeous, and hindneck, etc., deeper and more rufescent (less pinkish) vinaceous; similar also to *O. a. adusta* but decidedly larger and with color of upper parts less ruddy and showing more contrast between the darker and obviously streaked back and more vinaceous hue of hindneck. Adult female similar to that of *O. a. leucolæma* but larger and general color of upper parts slightly more buffy or cinnamomeous; similar also to that of *O. a. adusta* but larger. Young somewhat like that of *O. a. leucolæma* but darker and much browner; very similar to that of *O. a. adusta* but slightly less tawny or rufescent. (Intermediate, except in size, between *O. a. leucolæma* and *O. a. adusta.*)

Adult male.—Length (skins), 158–172 (166); wing, 103.5–110.5 (106.4); tail, 67–75 (71.4); exposed culmen, 10–13 (11.2); tarsus, 20–23 (21.8); middle toe, 10.5–12.5 (11.6).[a]

Adult female.—Length (skins), 140–150 (146); wing, 95–103 (98.8); tail, 62–66 (63.8); exposed culmen, 9.5–12 (10.3); tarsus, 19–22 (21); middle toe, 10–12 (1.13)[a].

Breeding from central New Mexico to central Arizona; migrating to northern Chihuahua (San Luis Spring; Animas Valley; City of Chihuahua; San Diego), northern Sonora (La Noria; Santa Cruz River), and western Texas (Marfa; El Paso; Laredo; Sierra Blanca; Comanche; Henrietta).

Otocoris? occidentalis MCCALL, Proc. Ac. Nat. Sci. Phlia., June, 1851, 218 (Santa Fé, New Mexico; coll. Acad. Nat. Sci. Philadelphia).

Otocoris alpestris occidentalis STONE, Proc. Ac. Nat. Sci. Phila., 1899, 21 (crit.).—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 855 (monogr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 344 (check list no. 474*l*).

(?) *Eremophila cornuta* . . . (var. *occidentalis*) DRESSER, Ibis, 1865, 486, part (San Antonio, etc., Texas).

[*Eremophila alpestris*] b. *leucolæma* COUES, Birds Northwest, 1874, 38, part.

[*Otocoris alpestris*] *arenicola* HENSHAW, Auk, i, 1884, 259, part.

Otocoris alpestris adusta DWIGHT, Auk, vii, 1890, 148, part.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599, part.

[a] Fifteen specimens.

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(?) *Eremophila cornuta* (not *Alauda cornuta* Wilson) KENNERLY, Rep. Pacific R. R. Survey, x. pt. iv, no. 3, 1859, 27 (Zuñi, New Mexico).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 107 (New Mexico).

(?) *Eremophila alpestris* . . . var. *chrysolæma* HENSHAW, Rep. Orn. Spec. Wheeler's Survey for 1872 (1874), 121 (near Wingate, New Mexico, breeding).

OTOCORIS ALPESTRIS ADUSTA Dwight.

SCORCHED HORNED LARK.

Similar to *O. a. occidentalis*, but decidedly smaller and color of upper parts much more uniform, with back very indistinctly streaked (even on lower portion) and showing little contrast in color with the more vinaceous hue of hindneck, etc.; similar also to *O. a. pallida*, but much darker above, with the general color more strongly vinaceous (less rufescent or cinnamomeous). Adult female like that of *O. a. occidentalis* but smaller; similar also to those of *O. a. aphrasta*, *O. a. ammophila*, and *O. a. chrysolæma*, but larger, darker, and more buffy or cinnamomeus than the first two and paler and more buffy than the last, with color of lesser wing-coverts, etc., very much paler. Young similar to that of *O. a. actia*, the general color of upper parts tawny brown, with rather large spots of buff, the chest brownish buff rather indistinctly flecked with dark brown; also like that of *O. a. oaxacæ*, but usually more strongly suffused with ochraceous. (The extreme vinaceous type.)

Adult male.—Length (skins), 142–160 (152); wing, 97–105.5 (102.4); tail, 65–73 (68.8); exposed culmen, 10–12 (10.8); tarsus, 20.5–22(21.2); middle toe, 10–12 (11.3).[a]

Adult female.—Length (skins), 143–145 (144); wing, 91.5–98.5 (96); tail, 58–65.5 (61.4); exposed culmen, 9.5–11 (10.4); tarsus, 19.5–21 (20.5); middle toe, 10–11.5 (10.8).[a]

Breeding in south-central Arizona (at base and on foothills of Huachuca and Santa Rita mountains); migrating to Chihuahua (Chihuahua City) and Sonora (Santa Cruz River).

Otocoris alpestris adusta DWIGHT, Auk, vii, April, 1890, 148 (Camp Huachuca, s. Arizona; coll. Wm. Brewster).—MEARNS, Auk, vii, 1890, 256 (mountains of Arizona, alt., 10,000 ft.).—ALLEN, Bull. Am. Mus. N. H., v, 1893, 37 (San Diego, n. w. Chihuahua, Feb. 16, Nov. 5).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 474*h*.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599.—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 858 (monogr.).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 28 (Huachuca Mts., Arizona, breeding on lower plains; habits).

[*Otocorys alpestris.*] Subsp. ζ. *Otocorys adusta* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 670.

O[tocorys] a[lpestris] adusta COUES, Key N. Am. Birds, 5th ed., i, 1903, 508.

[a] Fifteen specimens.

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OTOCORIS ALPESTRIS APHRASTA Oberholser.

CHIHUAHUA HORNED LARK.

Very similar to *O. a. adusta*, but back slightly less cinnamomeous and distinctly though narrowly streaked with dark brown; similar also to *O. a. leucansiptila* but upper parts very much darker; similar also to *O. a. pallida* but upper parts much darker, back distinctly streaked, and hindneck more vinaceous (less rufescent). Adult female similar to that of *O. a. occidentalis* but smaller and throat deeper yellow, decidedly paler and grayer than that of *O. a. adusta*. Young similar to those of *O. a. adusta* and *O. a. actia* but paler. (Intermediate between *O. a. adusta* and *O. a. leucansiptila* but much nearer the former and possibly not satisfactorily separable.)

Adult male.—Length (skins), 145–158 (151); wing, 99–104.5 (102); tail, 64–72 (68.5); exposed culmen, 10.5–12 (11.2); tarsus, 20.5–22.5 (21.3); middle toe, 10–12 (11.1).[a]

Adult female.—Length (skins), 150–153 (151); wing, 91.5–99 (95.1); tail, 57.5–65 (61); exposed culmen, 9.5–12 (10.8); tarsus, 18.5–22 (20.5); middle toe, 9.5–11.5 (10.7).[b]

North-central Mexico, in States of Durango (city of Durango), Coahuila (La Ventura), and Chihuahua (Parral; Playas Valley, near White Water; White Water; San Diego; city of Chihuahua; Casas Grandes; Balleza; Mesquite Springs), extending into extreme southeastern portion of Arizona (Wilcox; Willow Spring; Sulphur Spring; Fort Bowie) and southwestern New Mexico (Dog Spring, Grant County); resident.

(?) *Eremophila cornuta* (not *Alauda cornuta* Wilson) Baird, Rep. Pacific R. R. Survey, ix, 1858, 403, part (Saltillo, Coahuila).

(?) *Eremophila cornuta* . . . var. *chrysolæma* (not *Alauda chrysolaema* Wagler) Baird, Rep. U. S. and Mex. Bound. Survey, ii, pt. 2, 1859, 14, part (Saltillo, Coahuila).

Otocoris alpestris aphrasta Oberholser, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 860 (Casas Grandes, Chihuahua; coll. U. S. Nat. Mus.).

OTOCORIS ALPESTRIS PALLIDA Dwight.

SONORAN HORNED LARK.

Similar to *O. a. aphrasta*, but much paler above, with hindneck more pinkish and less strongly contrasted with color of back, the latter not obviously streaked; similar also to *O. a. leucansiptila* but color of upper parts much darker and less pinkish (more buffy-cinnamomeous); differing from *O. a. adusta* in decidedly paler upper parts, with back conspicuously less rufescent, from *O. a. ammophila* in paler and more uniform color of upper parts, with back very obsoletely if at all streaked. (Adult female and young not seen.)

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[a] Fifteen specimens. [b] Ten specimens.

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Adult male.—Length (skin), 152; wing, 102; tail, 69.5; exposed culmen, 11; tarsus, 20; middle toe, 10.[a]

Coast district of head of Gulf of California, in northwestern Sonora (Direction Hill, between Adair Bay and mouth of Rio Colorado).

Otocoris alpestris pallida DWIGHT, Auk, vii, April, 1890, 154 (ex "Townsend, MS;" near mouth of Rio Colorado, Sonora; coll. U. S. Nat. Mus.).—TOWNSEND, Proc. U. S. Nat. Mus., xiii, no. 799, Sept. 9, 1890, 138 (redescribed). AMERICAN ORNITHOLOGISTS' Check List, 2d ed., 1895, no. 474*j*, part.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599, part.—OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, 1902, 863 (monogr.).

O[tocorys] a[lpestris] pallida COUES, Key N. Am. Birds, 5th ed., 1903, 507.

[*Otocorys alpestris.*] Subsp. *δ. Otocorys pallida* SHARPE, Cat. Birds Brit. Mus., xiii, 1890, 670.

OTOCORIS ALPESTRIS LEUCANSIPTILA Oberholser.

BLEACHED HORNED LARK.

Similar to *O. a. pallida*, but upper parts decidedly paler, with color of hindneck, lesser wing-coverts, etc., much less cinnamomeous (more pinkish) and lower back distinctly (though narrowly) streaked; differing from *O. a. adusta* in conspicuously paler and less ruddy upper parts and distinctly streaked lower back; from *O. a. occidentalis* in decidedly smaller size and paler coloration; from *O. a. ammophila* in much paler upper parts, with color of hindneck, lesser wing-coverts, etc., very much paler and back much less distinctly streaked. Adult female similar to that of *O. a. leucolæma* but smaller and throat more yellow; similar to that of *O. a. ammophila* but paler. Young not seen. (The pallid extreme; intergrading with *O. a. pallida*, *O. a. ammophila*, *O. a. leucolæma*, and *O. a. occidentalis.*)

Adult male.—Length (skins), 153–167 (158); wing, 100–107 (102.9); tail, 65–70 (67.9); exposed culmen, 10.5–12 (11.2); tarsus, 21–22 (21.3); middle toe, 10.5–11.5 (11.1).[b]

Adult female.—Length (one skin), 145; wing, 93–96 (94.5); tail, 58.5–59.5 (59); exposed culmen, 11–11.5 (11.3); tarsus, 21–21.5 (21.3); middle toe, 11.[c]

Valley of the lower Colorado River, from northeastern Lower California (Gardiners Lagoon; Colorado River at monument 204), southeastern California (Coyote Well, San Diego County), and southwestern Arizona (Yuma) to southern Nevada (Ash Meadows); resident.

Otocoris alpestris leucansiptila OBERHOLSER, Proc. U. S. Nat. Mus., xxiv, no. 1271, June 9, 1902, 864 (Yuma, Arizona; coll. U. S. Nat. Mus.).

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[a] One specimen (the type). [b] Six specimens. [c] Two specimens.

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Superfamily MESOMYODI.[a]

MESOMYODIAN PASSERES.

<*Clamatores* WAGNER (Andreas), Wiegmann's Archiv. für Naturg., 1841, ii, 93 (includes all "Picariæ" of Nitzsch not zygodactyle nor amphibolic).—CARUS, Handb. Zool., 1868 (the Picarian forms excluded but Pseudoscines included).

=*Clamatores* GADOW, Bronn's Thier-Reich, Vögel, ii, 1893, 273, 301; Classif. Vertebr., 1898, 38.

=*Passeres clamatores* GADOW, Bronn's Thier-Reich, Vögel, ii, 1893, 276.

=*Mesomyodi* GARROD, Proc. Zool. Soc. Lond., 1876, 507, 517.—FORBES, Proc. Zool. Soc. Lond., 1880, 391.

=*Passères mesomyodi* COUES, Key N. Am. Birds, 2d ed., 1884, 427.

<*Passeres anisomyodæ* GADOW, Bronn's Thier-Reich, Vögel, ii, 1893, 273 (includes Pseudoscines).

<*Passeres anisomyodi* GADOW, Bronn's Thier-Reich, Vögel, ii, 1893, 301.

Passerine birds with the syrinx mesomyodous[b] or anisomyodous,[c] tracheal or broncho-tracheal, the syringeal muscles (if present) consisting of not more than two pairs; feet eleutherodactyle (schizopelmous)[d]; palate usually aegithognathous (schizognathous[e] only in Furnariidæ, inclining toward the desmognathous[e] type in Phytotomidæ); posterior tarsal envelope (*planta tarsi*) not acutiplantar.[f]

In this large group of at least 1,700 species and 250 genera the variations in external structural details are so great that a more elaborate

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[a] See the present work, Part I, p. 16.

[b] The syringeal muscles attached to the middle of the bronchial semirings. (See Garrod, Proc. Zool. Soc. Lond., 1876, 507; Newton, Dict. Birds, 576.)

[c] The syringeal muscles "unequally inserted, either in the middle or upon one (the dorsal or ventral) end of the bronchial semirings." (See Gadow, Bronn's Thier-Reich, Vögel, ii, Syst. Theil, 1893.)

[d] In the eleutherodactyle or schizopelmous (as distinguished from the desmodactyle, syndactyle, or desmopelmous) foot the *flexor perforans digitorum* and *flexor hallucis longus* tendons are separated from one another. (See Part I, 14, of the present work.)

[e] For definitions of these terms see Huxley, Proc. Zool. Soc. Lond., 1867, 415–472.

[f] See Part I, p. 18, of the present work. The several modifications of the tarsal envelope in the present group may be described as follows:

I. *Exaspidean.*—The anterior envelope (acrotarsium) extends entirely across the *outer* side of the tarsus and around the posterior side, sometimes meeting the starting point on posterior portion of inner side, the two edges usually separated by a narrow strip or groove of smooth or nonscutellate membrane.

II. *Endaspidean.*—The above arrangement (exaspidean) reversed, the acrotarsium extending to and around the tarsus from the *inner* side, the narrow plantar space being thus external instead of internal.

III. *Pycnaspidean.*—The broad plantar space on posterior side of tarsus broken up into numerous small irregular or roundish scutella or granules.

IV. *Holaspidean.*—The broad plantar space occupied by a single series of broad, more or less quadrate or rectangular scutella.

V. *Taxaspidean.*—The broad plantar space occupied by two or, rarely, three series of smaller, quadrate, rectangular, or hexagonal scutella.

These several types of tarsal scutellation are, in the main, well defined; but sometimes the arrangement is more or less intermediate; some Tyrannidæ, for example,

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diagnosis than that given above is scarcely practicable. Indeed, our knowledge of their internal structure is limited to so few of the forms that the extent to which our present ideas of the classification of the group may require modification after the anatomy of additional genera has been studied is a matter of great uncertainty; in fact it is not at all improbable that many changes in the limitations and composition of the family groups may be necessary. The anacromyodous syrinx and homœomerous thigh artery of many genera of Tyrannidæ as well as the catacromyodous syrinx and heteromerous thigh artery of many genera of Pipridæ and Cotingidæ are, for example, merely assumed, and there may be many exceptions to these supposedly diagnostic characters of the groups in question. Certainly some genera referred to the Cotingidæ can be separated, so far as external features admit, from the Tyrannidæ only by their non-exaspidean tarsi; but at the same time the character of the tarsal envelope is hardly more different than it is from that of certain other members of the Cotingidæ. In the absence, therefore, of knowledge as to the insertion of the vocal muscles and other anatomical characters of certain genera we must necessarily for the present be guided largely by external characters, and therefore the classification indicated in the following key to the families must be regarded as purely tentative.

The Mesomyodi are chiefly American and mostly Neotropical, only three families (Xenicidæ, Philepittidæ, and Pittidæ) occurring in the Eastern Hemisphere. Notwithstanding the difference in structure of their vocal organs many species (notably among the Formicariidæ) are songsters of considerable merit.

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have the tarsal envelope for its greater part typically exaspidean, but on the upper portion the acrotarsium extends only part way across the outer side, where there may be either distinct posterior series of scutella or small roundish or oval scutella extending for a short distance below the heel joint, or this space may be entirely nonscutellate. The two edges of the acrotarsium may be in actual contact for a greater or less portion of the length of the tarsus, or there may be a space of greater or less width between; this space being usually nonscutellate, but sometimes partly occupied by small roundish scutella, the tarsus then being semi-pycnaspidean. Sometimes the scutella are fused, the smooth (ocreate or "booted") tarsal covering then superficially resembling that of certain Oscines; but careful comparison will show a radical difference in the *form* of the posterior side of the tarsus, which in all Oscines except the Alaudidæ (in which the tarsus is holaspidean) has the posterior margin contracted into a sharp or narrow ridge or edge.

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KEY TO THE FAMILIES OF MESOMYODI.

a. Syrinx broncho-tracheal (typically Passerine). (*Haploophonæ*.[a])

b. Syringeal muscles anacromyodous (the vocal muscles inserted on the dorsal end of the bronchial semirings); tarsal envelope exaspidean[b]; middle toe coherent with outer toe for not more (usually less) than its basal phalanx, to inner toe for less than its basal phalanx.

c. Bill cuneate, acute, the tip of maxilla not at all uncinate; nostril narrow, overhung by a broad corneous operculum; feet stouter, with basal pelma of middle toe narrow and convex.....**Oxyruncidæ** (p. 332)

cc. Bill not cuneate nor acute (usually more or less depressed), with tip of maxilla more or less uncinate; nostril roundish, nonoperculate, or if narrow and operculate the operculum membraneous; feet weaker, with basal pelma of middle toe more or less expanded and flattened.....**Tyrannidæ** (p. 335)

bb. Syringeal muscles catacromyodous (the vocal muscles inserted on the ventral end of the bronchial semirings); tarsal envelope not exaspidean, or else (Pipridæ) the middle toe coherent with outer toe for more than its basal phalanx, or else (genus *Piprites*) coherent with inner toe for whole of its basal phalanx.

c. Temporal fossæ normally Passerine.

d. Intrinsic muscles normally catacromyodous; tongue not penicillate.

e. Rectrices 12; bill not subulate nor acute; tarsal envelope not fused.

f. Heteromerous (the main artery of thigh femoral).[c]

g. Tarsal envelope exaspidean (as in Tyrannidæ and Oxyruncidæ); second phalanx of middle toe partly (sometimes wholly) coherent with outer toe, or else (genus *Piprites*) the first phalanx wholly coherent with inner toe.....**Pipridæ** (p. 723)

gg. Tarsal envelope not exaspidean (pycnaspidean,[d] holaspidean,[d] or modified taxaspidean,)[d]; second phalanx of middle toe wholly free from outer toe (or else, in genus *Phænicircus*, inner side of tarsus feathered), never wholly adherent to inner toe..**Cotingidæ** (p. 769)

ff. Homœomerous (the main artery of thigh sciatic).[e]

g. Bill compressed, with smooth tomia; head with a conspicuous, compressed, semicircular bilateral crest; outermost primary abruptly attenuated at tip; inner secondaries abnormally broad, truncated.....**Rupicolidæ** (extralimital)[f]

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[a] <*Oligomyodæ* Huxley, Proc. Zool. Soc. Lond., 1867, 471 (includes *Desmodactyli*).
=*Oligomyodi* Garrod, Proc. Zool. Soc. Lond., 1876, 517.
>*Haploophonæ* Garrod, Proc. Zool. Soc. Lond., 1876, 517, 518 (comprises Tyrannidæ, Rupicolidæ, and Pittidæ).—Forbes. Proc. Zool. Soc. Lond., 1880, 389–391 (adds Philepittidæ and Acanthisittidæ).
=*Tyrannoideæ* Stejneger, Standard Nat. Hist., iv, 1885, 460, 463.
>*Tyrannidæ* Gadow, Bronn's Thier-Reich, Vögel, ii, 1893, 276, 301 (comprises Tyrannidæ, Oxyruncidæ, Pipridæ, Cotingidæ, and Rupicolidæ).
>*Tyranninæ* Gadow, Bronn's Thier-Reich, Vögel, ii, 1893, 276 (comprises Tyrannidæ, Oxyruncidæ, and Pipridæ).
>*Homœomeri* Garrod, Proc. Zool. Soc. Lond., 1876, 517, 518 (excludes Cotingidæ and Pipridæ).

[b] See p. 328.

[c] Comprising Garrod's group *Heteromeri* (Proc. Zool. Soc. Lond., 1876, 517, 518).

[d] See p. 328.

[e] The Rupicolidæ, Tyrannidæ, and Pittidæ together constitute Garrod's group *Homœomeri* as distinguished from his *Heteromeri*, the latter comprising only Pipridæ and Cotingidæ. (Proc. Zool. Soc. Lond., 1876, 517, 518.)

[f] *Rupicolinæ* Sclater (represented only by the genus *Rupicola* Brisson, peculiar to northern and western South America).

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gg. Bill stout, conical (finch-like), with serrated tomia; head without crest; outermost primary not attenuated, and inner secondaries neither abnormally broad nor truncated.
Phytotomidæ (extralimital) [a]

ee. Rectrics 10; bill subulate, acute; tarsal envelope fused.
Xenicidæ (extralimital) [b]

dd. Intrinsic muscles peculiarly expanded at lower insertion, not attached to bronchial semirings, which are peculiarly modified; tongue penicillate.
Philepittidæ (extralimital) [c]

cc. Temporal fossæ extending across occipital region of skull, the two of opposite sides nearly meeting on median line.....**Pittidæ** (extralimital) [d]

aa. Syrinx tracheal. (*Tracheophonæ*.) [e]

b. One pair of tracheo-bronchial muscles; tarsal envelope exaspidean or taxaspidean; metasternum 4-notched (except in Formicariidæ).

c. Metasternum 4-notched; tensor patagii brevis quasi-picarian; naras holorhinal.

d. Tarsal envelope exaspidean; no intrinsic muscles; sterno-trachealis not attached to processus vocales; palate schizognathous; mesorhinium normal; nostrils not conspicuously operculate.....**Conopophagidæ** (extralimital) [f]

dd. Tarsal envelope taxaspidean; intrinsic muscles present; sterno-trachealis attached to processus vocales; palate ægithognathous (oscinine); mesorhinium compressed and arched, or expanded into a flattened oval shield; nostrils conspicuously operculate.....**Pteroptochidæ**

cc. Metasternum 2-notched; tensor patagii brevis normally passerine; nares schizorhinal.....**Formicariidæ**

bb. Two pairs of tracheo-bronchial muscles; tarsal envelope endaspidean; metasternum 2-notched.

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[a] *Phytotominæ* Swainson—*Phytotomidæ* Cabanis and Heine, Mus. Hein., ii, Oct. 1859, 111. (Represented by a single genus, *Phytotoma* Molina, peculiar to southern South America.)

[b] *Xenicidæ* Forbes, Proc. Zool. Soc. Lond., 1882, 569.—*Acanthidositidæ* Newton, Dict. Birds, Part iv, 1896, 1055, in text. (Represented by two genera, *Xenicus* Gray and *Acanthisitta* Lafresnaye, both peculiar to New Zealand.) See Pycraft, Ibis, Oct., 1905, 603–621, pl. 13, where the possibly nearer relationship of this group to the Furnariidæ is suggested.

[c] *Philepittinæ* Sharpe, Proc. Zool. Soc. Lond., 1870, 397.—*Paictinæ* Sundevall, Met. Nat. Av. Disp. Tent., 1873, 297.—*Paictidæ* Forbes, Proc. Zool. Soc. Lond., 1880, 330, in text.—*Philepittidæ* Forbes, Proc. Zool. Soc. Lond., 1880, 331. (Consisting of a single genus, *Philepitta* Geoffroy St. Hilaire, peculiar to Madagascar.)

[d] *Pittidæ* Bonaparte. (An exclusively Old World group, consisting of about four genera and nearly seventy species and subspecies, found only in the Ethiopian, Indo-Malayan and Australian regions. They are short-tailed, long-legged terrestrial Mesomyodian Passeres, much resembling in form and general habits certain terrestrial Formicariidæ (especially of the genera Formicarius, Chamaeza, and Grallaria), but unlike the latter are, as a rule, very brilliantly colored.

[e] *Tracheophones* Müller (Johannes), Abh. K. Akad. Berlin, Phys. Kl., 1847, 367. (*Tracheophonæ* and *Tracheophoni* of more recent authors.)—*Formicaroideæ* Stejneger, Standard Nat. Hist., iv, 1885, 460, 476.

[f] *Conopophaginæ* (subfamily of Tyrannidæ) Sclater and Salvin, Nom. Av. Neotr., 1873, 41; Gadow, Bronn's Thier-Reich, Vögel, ii, 1891, 277.—*Conopophagidæ* Garrod, Proc. Zool. Soc. Lond., 1877, 452; Stejneger, Standard Nat. Hist., iv, 1885, 476; Cope, Am. Nat., xxiii, 1889, 873. (A small group of about sixteen species and two genera, *Conopophaga* Vieillot and *Corythopis* Sundevall, peculiar to South America.)

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c. Nares holorhinal or modified schizorhinal; palate schizognathous; outer toe much shorter than middle toe, not conspicuously longer than inner toe, the three anterior toes coherent for much less than full length of their basal phalanx.....**Furnariidæ**

cc. Nares holorhinal; palate aegithognathous or semi-desmognathous; outer toe nearly (sometimes quite) as long as middle toe, both conspicuously longer than inner toe, the three anterior toes coherent (fused) for entire length of their basal phalanges.....**Dendrocolaptidæ**

Since the above was written I have seen the following brief reference to a paper (apparently not yet published) on the classification of the present group by Mr. W. P. Pycraft, F. Z. S. According to this notice Mr. Pycraft describes the "Tracheophone Passeres" as a group differing from all the remaining Passeres in the formation of the syrinx, which is tracheal—instead of tracheo-bronchial—and peculiar among syringes of the tracheal type in the development of a cartilaginous pillar for the insertion of the intrinsic muscles. The group is divisible into three sections—(*a*) having holorhinal nares and a single-notched sternum, (*b*) with schizorhinal nares and a single-notched sternum, and (*c*) with holorhinal nares and a double-notched sternum.

He proposed to make the Tracheophone Passeres one of four great divisions of the Passerine stem. The most primitive of the divisions would contain the Eurylæmidæ, Cotingidæ, and *Philepitta*. The second would be represented by the Tracheophonæ, the third by the Tyrannidæ and Pittidæ, and the fourth by the rest of the Passeres.

Family OXYRUNCIDÆ.

THE SHARP-BILLS.

Sharp-billed Mesomyodian birds with syrinx broncho-tracheal (haploophone), syringeal muscles anacromyodous, tarsal envelope exaspidean, outer toe nearly as long as middle toe, and basal phalanx of middle toe adherent for more than half its length to inner toe.

The above brief diagnosis is sufficient for characterizing this remarkable family, which may be readily distinguished from other Mesomyodian groups by the combination of sharp-pointed, wedge-shaped bill and exaspidean tarsi. A supposed diagnostic character in the alleged serration of the outermost primary is really not worth consideration, the serration being so faint as to be practically non-existent.

The Oxyruncidæ comprise, so far as known, a single genus (*Oxyruncus* Temminck), which contains three forms, apparently mere geographic variations of a single species, which ranges from Costa Rica to southeastern Brazil.

The relationships of the form are not satisfactorily determined, but apparently the Tyrannidæ are not remotely allied.

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Genus OXYRUNCUS Temminck.

Oxyruncus TEMMINCK, Anal. du Syst. gén. d'Orn., in Man. d'Orn., ed. 2, i, 1820, p. lxxx. (No type specified, but undoubtedly intended to be *Oxyrhynchus flammiceps* Temminck = *Oxyrhyncus cristatus* Swainson.)

Oxyrhyncus (emendation) SWAINSON, Zool. Illustr., ser. 1, i, no. 9, June, 1821, pl. 49 and text.

Oxyrhynchus (emendation; not of Leach, 1816) TEMMINCK, Pl. Col., livr. 21, April, 1822, pl. 125.

Oxyrhamphus (emendation) STRICKLAND, Ann. Nat. Hist., vi, 1841, 420.

Oxyramphus (emendation) BONAPARTE, Consp. Av., i, 1850, 211.

Bill shorter than head, straight, wedge-shaped, acute and not at all uncinate at tip, the outlines all nearly straight; gonys decidedly longer than mandibular rami, the latter rather widely divergent basally, with lower lateral outline declinate basally, where forming an acute angle. Nostrils wholly exposed, narrowly oval or nearly linear, overhung by a very broad operculum. Rictal bristles weak, those of chin rather more strongly developed. Wing moderate, with nearly truncate tip, the seventh, eighth, and ninth primaries longest, the sixth and tenth shorter and nearly equal;[a] longest primaries exceeding secondaries by more than length of exposed culmen. Tail decidedly shorter than wing to end of secondaries, slightly emarginate or double-rounded, or even. Tarsus stout, longer than bill, decidedly longer than middle toe with claw, its envelope typically exaspidean; toes stout, the outer nearly as long as the middle one, the inner decidedly shorter, the basal phalanx of middle toe wholly coherent with outer toe and for more than half its length to inner toe; hallux much larger and stronger than lateral toes; claws strongly curved, sharp, rather broad.

Coloration.—Above olive-green with paler wing-edgings, the pileum spotted with black and with a median longitudinal patch of narrow, elongated dull scarlet or orange-red feathers; beneath pale yellowish or whitish, with bars and triangular spots of black. (Sexes alike in color.)

Nidification.—(Unknown.)

Range.—Costa Rica to southeastern Brazil. (Monotypic?)

KEY TO THE SUBSPECIES OF OXYRUNCUS CRISTATUS.

a. Under parts light yellow, paler (sometimes white on throat).

b. Larger wing-coverts indistinctly margined with light yellowish olive, the secondaries narrowly edged terminally with light yellow or yellowish olive; tail relatively longer (wing 92–94, tail 62–63). (Southeastern Brazil.)

Oxyruncus cristatus cristatus (extralimital)[b]

[a] The alleged serration of the outermost primary has been mentioned as a diagnostic feature, but I find this to be very indistinct in all specimens examined.

[b] *Oxyrhyncus cristatus* Swainson, Zool. Illustr., ser. 1, i, no. 9, June, 1821, pl. 49 and text (Brazil).—*Oxyrhynchus flammiceps* Temminck, Pl. Col., livr. 21, Apr., 1822, pl. 125 and text (Brazil; coll. Paris Mus.); Sclater, Cat. Am. Birds, 1862, 160.—*O[xyrhamphus] flammiceps* Gray, List Gen. Birds, 1841, 23.—*Oxyrhamphus flammiceps* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 281.—*Oxyrhynchus serratus* Mikan, Del. Flor. et Faun. Bras., Fasc. 3, 1823, with fig.

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bb. Larger wing-coverts distinctly and rather broadly margined with light yellow or olive-yellow, the secondaries broadly edged terminally with the same; tail relatively shorter (wing 91–95.5, tail 54–58.5). (Costa Rica and Panama.)
Oxyruncus cristatus frater (p. 334)

aa. Under parts white, passing into pale yellow on sides and flanks. (British Guiana.)
Oxyruncus cristatus hypoglaucus (extralimital)[a]

OXYRUNCUS CRISTATUS FRATER (Sclater and Salvin).

COSTA RICAN SHARP-BILL.

Adults (*sexes alike*[b]).—Forehead and sides of crown black barred with dull yellowish white or pale olive-yellow; median portion of crown and occiput grayish olive indistinctly spotted with dusky, and with a concealed patch (mostly occipital) of narrow, elongated scarlet feathers; hindneck olive-green, clouded with dusky; back, scapulars, lesser wing-coverts, rump, and upper tail-coverts plain olive-green; tail dusky, with greenish olive edgings; wings (except lesser coverts) dusky, the middle and greater coverts with outer webs and terminal portion of inner webs olive-green, broadly margined terminally with light yellow; outer webs of tertials olive-green, broadly edged with light yellow, the remaining secondaries more narrowly edged with olive-green, the primaries still more narrowly edged with the same; a narrow and rather indistinct orbital ring of yellowish or olivaceous white; loral and suborbital regions grayish white, the latter narrowly barred with dusky; auricular region light grayish, tinged with olive and indistinctly squamated with dusky; postocular and malar regions light olive-yellow, broadly barred or transversely spotted with black; under parts light canary or deep primrose yellow, paler anteriorly, the throat and upper chest transversely spotted with black or dusky, the lower chest, breast, and sides marked with more or less triangular and sagittate spots and streaks of the same; axillars and under wing-coverts light canary yellow, the coverts along margin of wing spotted with dusky; bill dusky, the lower and basal portion of mandible paler (horn color in dried skins); legs and feet horn color (in dried skins).

Young.—Pileum broccoli brown, spotted with dusky, and without any red central patch; hindneck paler brown with rather indistinct transverse spots of dusky brown, the median portion of back similar but paler; rump pale yellow, flecked with pale brown, the median upper tail-coverts pale brownish yellow clouded with pale brown;

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[a] *Oxyrhamphus hypoglaucus* Salvin and Godman, Ibis, 5th ser., i, Apr., 1883, 206 (Roraima, British Guiana; coll. Salvin and Godman); Reichenow and Schalow, Journ. für Orn., 1886, 88 (reprint); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 282 (Merumé Mts. and Roraima, Brit. Guiana).

[b] I have not seen a specimen actually determined as a male, but Messrs. Salvin and Godman state that the female differs from the male only in the absence or less development of the serration along the edge of the outermost primary. This serration being very obvious in a specimen sexed by the collector as a female, I conclude that the supposed distinction between the sexes is not to be entirely relied on.

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under parts nearly white on throat and chest, the former very indistinctly and sparsely spotted, the marking on under parts of body smaller, more spot-like (mostly roundish) and less deep in color than in adults; otherwise essentially like adults.[a]

Adult female.—Length (skins), 143–149 (146); wing, 91–95.5 (92.7); tail, 54–58.5 (55.5); exposed culmen, 16.5–18 (17.2); tarsus, 19–20 (19.5); middle toe, 12.5–14 (13.2).[b]

Panama (Calovevora; Chitra; Castillo) and Costa Rica (San Carlos; Bonilla; Buena Vista; Orosi; San José).

Oxyrhamphus frater SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 326 (Calovevora, Panama; coll. Salvin and Godman); Exotic Orn., pt. ix, pl. 66 (2 figs.).—SALVIN, Ibis, 1869, 314 (Calovevora, Panama).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 281 (Calovevora and Castillo, Panama; Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 2.

[*Oxyrhamphus*] *frater* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 41.

Oxyrhynchus flammiceps (not of Temminck) LAWRENCE, Ann. Lyc. N. Y., ix, 1868. 106 (San José, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 304 (Orosi, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 194 (Calovevora and Chitra, Panama).

Family TYRANNIDÆ.

THE TYRANT FLYCATCHERS.

Mesomyodian Passeres with the syrinx broncho-tracheal (haploophone), syringeal muscles anacromyodous (the vocal muscles inserted on the dorsal end of the bronchial semirings), tarsal envelope exaspidean, or quasi-exaspidean, middle toe united to outer toe for not more (usually decidedly less) than its basal phalanx[c] and to inner toe for less than its basal phalanx, with tip of maxilla more or less uncinate, and with nostrils not distinctly, if at all, operculate (if overhung by integument, this membraneous, not corneous).

Primaries obviously ten, the outermost usually longer than secondaries, though sometimes (in genera *Colopteryx*, *Atalotriccus*, and *Phæotriccus*[d]) three or more outer primaries are conspicuously reduced in size. Rectrices twelve, usually nearly equal in length, but sometimes the lateral, more rarely the middle, pair conspicuously elongated. Bill extremely variable as to shape and relative size, but always with tip of maxilla more or less uncinate; usually the bill is more or less broad and depressed (more or less broadly triangular in vertical profile), with culmen distinctly ridged, sometimes excessively

[a] The specimen described had already assumed a considerable portion of the adult plumage, and apparently at first the whole upper parts except remiges and rectrices are pale yellowish flecked or clouded with pale brown.

[b] Three specimens.

[c] Except in the genus *Terenotriccus*.

[d] *Phæotriccus* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209. (Type, *Cnipolegus hudsoni* SCLATER.)

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broad; more rarely it is stout-terete or almost subulate. Rictal bristles usually well developed, sometimes excessively so, extending beyond tip of bill when pressed forward. Nostril usually small and roundish or oval, rarely with obvious superior operculum, usually partly concealed by antrorse or semierect bristly feathers of the latero-frontal antiæ. Tarsus extremely variable as to relative length, in some genera of terrestrial habits (peculiar to the treeless districts of southern South America) very long and slender (twice as long as middle toe without claw); in other genera (strictly arboreal) decidedly shorter than the middle toe with claw. Tarsal envelope ultra-exaspidean to semi-pycnaspidean, usually typically exaspidean; the acrotarsium extending on outer side to or around the posterior side of the tarsus, the two edges often meeting on the inner side, but usually separated by a narrow (or very rarely rather broad) strip or groove of nonscutellate membrane.[a] Middle toe usually united to outer toe for about half but in several genera for the whole of its basal phalanx, in two genera (*Rhynchocyclus* and *Terenotriccus*) with at least the basal half of the second phalanx thus united, and usually adherent to inner toe for less than half, sometimes nearly the whole, of its basal phalanx; lateral toes always unequal in length, the outer more or less longer than the inner, reaching (without claw) to about the middle of the subterminal phalanx of the middle toe, never to the end of the latter; hallux about

[a] There are, in fact, many types or modifications of the exaspidean tarsus in this group, though the extreme variations are connected by structures intermediate in every degree. In a majority of the genera the acrotarsium completely incloses the tarsus, at least for part of its length, the two edges being in actual contact for a greater or less distance. The opposite extreme is shown, so far as I have been able to ascertain, by a single species, *Myiodynastes audax*, which, at least in the specimen examined, is separated entirely by a space 1 mm. wide at its narrowest point, the outer portion of the acrotarsium extending beyond the posterior margin of the outer side of the tarsus. The plantar space is essentially nonscutellate, but the lower portion shows, on close examination, indications of small scutella. In this case the tarsal envelope may be said to be semi-pycnaspidean, other species of the same genus (*M. solitarius*, *M. luteiventris*, *M. bairdi*, and *M. chrysocephalus*) having truly exaspidean tarsi.

In some of the genera which have the two edges of the acrotarsium actually meeting on the inner side the usual acrotarsial segments or scutella are obsolete, the tarsus being "booted" as in certain Oscines, examples being the genera *Perissotriccus*, *Platyrhinchus*, *Craspedoprion*, *Myiobius* (as restricted by me), and some species of *Mionectes;* other genera showing nearly the same condition, at least in some of the species. *Cnipodectes* also has a booted tarsus, but the edges of the acrotarsium are separated by a membraneous interval. Unfortunately, these variations in the tarsal envelope do not seem to be correlated with variations in the degree of cohesion between the anterior toes, form of bill, or other external characters, nor do they conform in all cases to indubitable relationships; consequently they have disappointed me in the hope that they might greatly simplify the classification of the group, for they seem of little value beyond the definition of genera (even sometimes failing here!) or minor supergeneric groups; indeed, it has been found that each of them is more or less variable within what appear to be proper generic limits.

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as long as outer toe but much stouter; claws usually moderately developed or rather small, moderately to strongly curved, acute, that of the hallux, however, sometimes as long as or longer than the digit.

The above diagnosis, while by no means complete, is quite sufficient to enable one to recognize a member of this extensive and exceedingly varied family. The more typical Tyrannidæ, especially the smaller North and Middle American species, resemble, superficially, the true Flycatchers (family Muscicapidæ) of the Old World, both in general appearance and in habits; but the latter are true *Oscines*, more nearly related to the Thrushes than to any other group of birds. In South America, where the Tyrannidæ are most numerous and deversified, remarkable teleological reproductions or mimicries of other oscinine groups have been developed. Some are similar in general appearance and habits to the Kinglets (Regulinæ) and Titmice (Paridæ); others are terrestrial and closely resemble Larks, Stone-chats, Wagtails, or Pipits; again, there are swallow-like, aerial forms with deeply forficate tails; others strikingly Tody-like in appearance; some closely resemble the Thrush-like genus *Myadestes*, others recall Vireos; in fact there are few oscinine types which are not more or less closely imitated in the group.

More than five hundred and fifty species and subspecies of Tyrannidæ are known, referable to more than eighty genera; and, as Doctor Sclater remarks,[a] "many more no doubt remain to be discovered, as the remote portions of South America come to be investigated."

Probably no other group of birds is more difficult to study; for, among the very large number of species there are, in contrast with the Cotingidæ, comparatively few highly differentiated forms, much the greater number being birds of dull coloration, with very slightly modified structural characters; and even when the latter appear distinct enough to form the basis of supergeneric subdivisions of the family it is found on examination of others that, with a few exceptions, the most extreme types grade almost imperceptibly one into another. It is by no means unlikely that, as Doctor Sclater has said, "future anatomical study on the lines pursued by Garrod and Forbes may eventually succeed in giving us a better system than anything that can be obtained from the study of the dried skins;" and I am also of the opinion that such study will not only result in a satisfactory arrangement of the genera in accordance with their co-relationships but will develop the necessity of dividing the group into two or more, one of which may include certain genera

[a] Cat. Birds Brit. Mus., xiv, 2.

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now referred to the Cotingidæ solely on account of the different character of the tarsal envelope.[a]

In order to get as clear an understanding as practicable of the classification of the group, all the genera available[b] to me have been carefully compared. Many days were devoted to an attempt to construct a "key" to all the genera in hand, but it finally became evident that the task would require far more time for its completion than could be allowed, and therefore it became necessary to restrict the key to those genera belonging to the geographic field of the present work, together with a few extralimital ones included for the purpose of comparison. Even with this elimination of half the genera the task has proven exceedingly difficult and the results far from satisfactory, although it is believed that some improvement has been made over the "purely provisional" arrangement in the "Catalogue of Birds in the British Museum,"[c] in which the so-called subfamilies are without question purely artificial and the allocation of certain genera obviously wrong.[d] The subject has called forth a very pertinent and interesting paper from Doctor von Ihering,[e] in which a partial reconstruction of Doctor Sclater's "Subfamilies," based chiefly on biological facts, is shown to be necessary, the proposed changes being as follows:

(1) The Tæniopterinæ restricted by elimination of the genera *Sayornis*, *Sisopygis*, and, probably, *Machetornis*.

(2) The Platyrhynchinæ divided into two groups, Euscarthminæ and Serpophaginæ.

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[a] The general *Lathria*, *Lipangus*, *Attila*, *Hylonax*, *Sirystes*, *Idiotriccus*, *Tyrannulus*, *Microtriccus*, etc. It is true that the Cotingidæ are supposed to be catacromyodous, that is, have the vocal muscles inserted on the ventral instead of the dorsal end of the bronchial semirings; but it is equally true that there are many genera (including those just mentioned) in both the Tyrannidæ and Cotingidæ, as now understood, of which the character of the insertion of the vocal muscles is unknown. (See remarks under Mesomyodi, on p. 329.)

[b] The only genera not examined are the following: *Ochthornis* Sclater, *Ceratotriccus* Cabanis, *Pseudotriccus* Taczanowski and Berlepsch, *Leptotriccus* Cabanis and Heine, *Pseudomyobius* Salvadori and Festa, *Planchesia* Bonaparte, *Taeniotriccus* Berlepsch and Hartert, *Phæomyias* Berlepsch, and *Acrochordopus* Berlepsch and Hellmayr.

[c] Catalogue | of the | Passeriformes, | or | Perching Birds, | in the | collection | of the | British Museum. | Oligomyodæ, | or the Families | Tyrannidæ, Oxyrhamphidæ, Pipridæ, Cotingidæ, | Phytotomidæ, Philepittidæ, Pittidæ, | Xenicidæ, and Eurylæmidæ. | By | Philip Lutley Sclater. | London: | Printed by order of the Trustees. | 1888. | [Constituting Vol. xiv of the "Catalogue of the Birds in the British Museum.". The Tyrannidæ on pages 2–280.]

[d] As an example may be cited the reference of one species of the particularly homogeneous genus *Sayornis* to the "Tyranninæ," and the remaining species to the "Tæniopterinæ," almost at opposite extremes of the arrangement!

[e] The Biology of the Tyrannidæ with respect to their Systematic Arrangement. By Dr. H. von Ihering. *The Auk*, xxi, July, 1904, 313–322.

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(3) The Elaininæ restricted by elimination of the genera *Rhynchocyclus*, *Legatus*, *Myiozetetes*, *Conopias*, *Pitangus*, *Sirystes*, and *Myiodynastes*, which, except the first (referred to Euscarthminæ), should constitute a "subfamily" Pitanginæ, morphologically intermediate between the Elaininæ and Tyranninæ, but which perhaps should be united with the latter.

These modifications in the arrangement of the Tyrannidæ proposed by Doctor Von Ihering are in my opinion entirely justifiable, but I am convinced that they are but a step toward further changes which are necessary before a correct exposition of the phylogeny of the group can be made; and, while not prepared to forecast these with any degree of certainty, will express my belief that the genera *Agriornis* and *Muscisaxicola* are each quite *sui generis* and are not as closely related to *Tæniopter*a as the latter is to typical Tyrannidæ; and that several genera do not belong to the Tyrannidæ at all, but must be transferred to other groups, none of them possessing the exaspidean tarsal envelope, the only external character, except that of less pronounced syndactylism (very variable within the group), which can be said to be really diagnostic of the family. These are (1) *Lawrencia*, which, having acutiplantar tarsi, is a member of the Oscines;[a] (2) *Stigmatura*,[b] (3) *Hapalocercus*,[c] and (4) *Habrura*,[d]

[a] *Lawrencia* has ten obvious primaries, the tenth being about half as long as the ninth; the basal phalanx of the middle toe is completely united to the outer toe and almost wholy adherent to the inner toe, thus agreeing, as in the wing-structure, with the Vireonidæ, where the genus probably belongs, though differing from other vireonine genera in its depressed and broadly triangular bill.

[b] *Stigmatura* resembles in general form the formicarian genus *Formicivora* and possibly belongs to the same family.

[c] *Hapalocercus* is also possibly formicariine in its affinities. One species has been referred to it which has the typical tyrannine exaspidean tarsi and therefore certainly is not congeneric. This is *Alectrurus flaviventris* D'Orbigny and Lafresnaye, type of the genus *Myiosympotes* Reichenbach (Av. Syst. Nat., 1850, pl. 65), and therefore to be known as *Myiosympotes flaviventris*. I have not seen *H. fulviceps* nor *H. acutipennis* and therefore can not say whether they are congeneric with *H. melacoryphus* or not; but the former doubtless is, since its very near relative, *H. paulus* Bangs, is a true *Hapalocercus*.

[d] The tarsal envelope of *Habrura*, while less typically taxaspidean than that of *Hapalocercus*, nevertheless conforms to the same type and is by no means exaspidean. The inner side of the planta tarsi consists of a single continuous series of well-defined quadrate scutella; but on the outer side the acrotarsium extends quite to the posterior edge of the tarsus except for the upper third, where three or four rather large and very distinct longitudinal scutella occupy approximately the posterior half. This last character is seen in many typical Tyrannidæ, but in none of the latter is there even any indication of the well-defined and continuous series of quadrate scutella along the posterior half of the inner side of the tarsus. The nostrils in *Habrura* are quite different from those of *Hapalocercus*, roundish and nonoperculate, while in the latter they are more longitudinal, relatively larger, and overhung by a rather broad membraneous operculum. The proper position for these two genera is a question which I am not able to decide, but would suggest that *Hapalocercus* may be a member of the Formicariidæ, while *Habrura* might not be out of place in the Cotingidæ.

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which have taxaspidean tarsi; (5) *Muscigralla*,[a] which has holaspidean tarsi; (6) *Culicivora*,[b] which has non-exaspidean tarsi and only ten rectrices; (7) *Sirystes*, which also has holaspidean tarsi and belongs very close to *Lipangus*, among the Cotingidæ, where I have placed it; (8) "*Pogonotriccus*" *zeledoni*,[c] which, possessing ultra-pycnaspidean tarsi, must be transferred to the Cotingidæ; (9) *Elainopsis* (type *Elainea elegans* Pelzeln); (10) *Tyrannulus*, and (11) *Microtriccus* (type *Tyrannulus semiflavus* Sclater and Salvin), which have essentially pycnaspidean tarsi, and therefore can not belong to the Tyrannidæ as here defined, and (12) *Myiarchus validus*[d] Cabanis, which has holaspidean tarsi and is apparently not distantly related to the Cotingine genus *Attila*. Possibly additional removals should be made of genera which I have not been able to examine or from species not available, it being a very obvious fact that comparatively few of the genera as currently understood are really homogeneous or natural groups, having been segregated as alleged genera more by superficial examination than close attention to structural details.

KEY TO THE GENERA OF TYRANNIDÆ.

a. Tail not forficate (if forked, the lateral rectrices less than twice as long as middle pair).

b. Middle pair of rectrices elongated, much reduced in width along middle portion. **Copurus** (p. 349)

bb. Middle pair of rectrices not elongated.

c. Exposed culmen more than one-fourth as long as wing; a conspicuous transversely fan-shaped crest of yellow, orange, or red, tipped with black and steel blue or metallic violet..... **Onychorhynchus** (p. 352)

cc. Exposed culmen less than one-fourth as long as wing; no fan-shaped crest (if crested the crest not colored as above).

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[a] *Muscigralla* is a very peculiar looking form, the appearance of which does not in the least suggest any relationship to the Tyrannidæ, while its holaspidean tarsi certainly exclude it from that family. It probably belongs to the Formicariidæ.

[b] The genus *Culicivora* Swainson also is almost certainly not a member of the Tyrannidæ, since it has non-exaspidean tarsi and only ten rectrices. The tarsal envelope at first sight appears to be exaspidean; but, while the acrotarsium entirely crosses the outer side of the tarsus and occupies the greater part of the inner side, there is interposed, between the two edges, a continuous series of very distinct lozenge-shaped scutella. The style of coloration (conspicuously streaked above) is different from that of any true Tyrannine form and recalls that of some of the Synallaxinæ (Furnariidæ).

[c] True *Pogonotriccus* I have not seen, but *P. plumbeiceps* Lawrence (which Von Berlepsch places, I think properly, in *Tyranniscus*) has typically exaspidean tarsi. *P. zeledoni* I have been obliged to make the type of a new genus, *Idiotriccus*, which, on account of its pycanspidean tarsi, I refer to the Cotingidæ.

[d] "*Myiarchus*" *validus* I have placed under Cotingidæ in the monotypic genus *Hylonax*.

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d. Very small forms (wing not more, usually much less, than 62 mm.), with bill narrowly triangular or subspatulate, its width at frontal antiæ much less than distance from nostril to tip of maxilla, exposed culmen longer than middle toe with claw, basal phalanx of middle toe wholly united to outer toe, and tail less than seven-eighths as long as wing.[a]

e. Tail at least two-thirds as long as wing.

f. Bill decurved, with culmen strongly arched.....**Oncostoma** (p. 357)

ff. Bill not decurved, the culmen nearly straight.

g. Outer primaries not reduced in size, the eighth longer than first.

h. Bill larger, the exposed culmen decidedly longer than middle toe with claw.

i. Bill relatively larger (exposed culmen at least one-fourth as long as wing), broader and less tapering (subspatulate) terminally; pileum not crested.....**Todirostrum** (p. 361)

ii. Bill relatively smaller (exposed culmen much less than one-fourth, sometimes less than one-fifth as long as wing, narrower and more tapering terminally; pileum crested.

j. Feathers of crest blended, unicolored (whole pileum rufous); exposed culmen much more than one-fifth as long as wing; under parts, except throat, bright yellow, the latter not streaked.....**Pœcilotriccus** (extralimital)[b]

jj. Feathers of crest distinctly outlined, bicolored (black, margined with gray or tipped with rufous or tawny); exposed culmen not much if any more than one-fifth as long as wing; under parts of body very pale yellow or whitish, the throat streaked.....**Lophotriccus** (p. 369)

hh. Bill smaller, the exposed culmen but little if any longer than middle toe with claw.....**Orchilus** (extralimital)[c]

gg. Three or four outer primaries greatly reduced in size, the eighth shorter than first.

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[a] The only genera of Tyrannidæ belonging to the geographic field of this work possessing all but one of the above combination of characters are *Placostomus* and *Platytriccus*, which have the bill excessively broad (its width at frontal antiæ much greater than distance from nostril to tip of maxilla) and *Nesotriccus*, which has the tail more than seven-eighths as long as the wing.

[b] *Poecilotriccus* Berlepsch, Journ. für Orn., July and Oct., 1884, 298, footnote. (Type, *Todirostrum lenzi* Berlepsch.) I am not sure that the species upon which the characters given above are based is really *P. lenzi*, since it does not agree with Doctor Sclater's description nor indeed any other described in vol. xiv of the "Catalogue of Birds in the British Museum." It is evidently at least closely related to both *P. lenzi* and *P. rufigene*, but apparently differs from both in having a broad and very distinct band of dusky across the chest, separating the white of the lower throat from the yellow of the breast.

[c] *Orchilus* Cabanis, in Tschudi's Fauna Peruana, Aves, 1846, 164. (Type, *Euscarthmus cinereicollis* Maximilian = *Platyrhynchus auricularis* Vieillot.)—*Orcheilus* (emendation) Gray, Hand-list, i, 1869, 349. (Central Peru to southeastern Brazil; two species.)

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h. Conspicuously crested; only three outer primaries reduced, their shape normal; fifth and sixth primaries longest.

Colopteryx (extralimital)[a]

hh. Not crested; four outer primaries reduced (narrow and subfalcate, and seventh shorter than tenth, in adult male; third and fourth primaries longest ..... **Atalotriccus** (p. 373)

ee. Tail much less than half as long as wing..... **Perissotriccus** (p. 376)

dd. Without the combination of characters given under *d*.

e. Small forms (wing less than 62 mm.), with tarsus not less than one-third as long as wing, and bill very broad and flat, with distinctly convex lateral outlines, its width at frontal antiæ much greater than distance from nostril to tip of maxilla.

f. Feathers of chin and frontal antiæ with distinct bristly tips; tarsi and toes more slender; basal phalanx of middle toe wholly united to inner toe; tail much less than half (about two-fifths) as long as wing, with rectrices relatively narrower; outermost (tenth) primary longer than fifth..... **Placostomus** (p. 378)

ff. Feathers of chin without, those of frontal antiæ with, very indistinct (if any) bristly tips; tarsi and toes stouter; basal phalanx of middle toe not wholly united to inner toe; tail nearly half to slightly more than half as long as wing, the rectrices relatively broader; outermost (tenth) primary not longer than third (usually shorter than first).

Platytriccus (p. 380)

ee. Larger forms (wing more than 62 mm.) or else without the combination of characters given under *e*.

f. Bill short, broad, and flat, its width at posterior end of nostril equal to or greater than length of gonys, the latter equal to or greater than distance from nostril to notch of maxillary tomium.

g. Width of bill at frontal antiæ much greater than distance from nostril to tip of maxilla, nearly equal to length of exposed culmen; tail much less than two-thirds as long as wing; outermost (tenth) primary equal to fifth; pileum crested; color olive-brown above, the wings rufescent, pale yellow below with throat white and chest brown.

Platyrinchus (extralimital)[b]

gg. Width of bill at frontal antiæ not greater than distance from nostril to tip of maxilla, decidedly less than length of exposed culmen; tail more than three-fourths as long as wing; pileum not crested; color olive-green above (sometimes gray on head), paler or yellowish below.

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[a] *Colopterus* (not of Erichson, 1842) Cabanis, in Ber. Verh. Ak. Berlin, 1845, 216. (Type, *Motacilla galeata* Boddaert.)—*Colopteryx* Ridgway, Proc. U. S. Nat. Mus., sig. 33, Aug. 6, 1888, 519. (New name for *Colopterus* Cabanis, preoccupied. By mere inadvertence the type was given by me as *C. pilaris* Cabanis; but since it was unquestionably and clearly my intention to merely replace a preoccupied name and not to name a new genus this slip can not justify the view, possibly held by some strict adherents of the principle that action should prevail over intention in matters of nomenclature, and that therefore the type of *Colopteryx* must necessarily be *C. pilaris*.

[b] *Platyrinchus* Desmarest, Hist. Nat. Tangaras, Manakins, et Todiers, 1805, pl. 72. (Type, *Todus platyrinchus* Gmelin.)—*Platyrhynchos* (emendation) Vieillot, Analyse, 1816, 39.—*Platyrhyncus* Descourtilz, Orn. Brés., 1856, 22.—*Platyrhynchus* (emendation) Swainson.

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h. Bill larger, stronger, and broader; anterior toes more extensively united basally, the middle toe united to outer for whole of its basal and part of its second phalanx, to inner for more than half the length of its basal phalanx; tenth (outermost) primary equal to or longer than fifth, the barbs of its outer web stiffened and recurved terminally, in adult males [a] ..... **Craspedoprion** (p. 385)

hh. Bill smaller, weaker, and narrower; anterior toes more deeply cleft, the middle one united to outer for less than entire length of its basal phalanx, and to inner for little if any more than half the length of its basal phalanx; tenth (outermost) primary shorter than fifth (sometimes shorter than first), its outer web with barbs normal ..... **Rhynchocyclus** (p. 389)

g. Width of maxilla at posterior end of nostrils equal to less than length of gonys, or else (*Legatus*, *Tyrannopsis*) the latter much shorter than distance from nostril to notch of maxillary tomium.

h. Bill relatively small and short, the exposed culmen shorter than middle toe with claw, or else the latter as long as tarsus or very little shorter.

i. Bill more slender, its width at frontal antiæ equal to less than two-thirds the distance from nostril to tip of maxilla.

j. Basal phalanx of middle toe only about half united to outer toe, mostly free from inner toe ..... **Serpophaga** (p. 395)

jj. Basal phalanx of middle toe almost wholly united to outer toe, about half united to inner toe.

k. Larger (wing more than 60 mm.); bill more tapering terminally, deeper (nearly as deep as broad) basally; nostril roundish, with narrow superior membrane; no distinct wing-bands; crown with a yellow or white patch. **Myiopagis** (p. 398)

kk. Smaller (wing less than 60 mm.); bill less tapering terminally, more depressed (much broader than deep) basally; nostril narrow, with broad superior membrane; broad yellow wing-bands; crown without yellow or white spot. **Pogonotriccus** ? (extralimital) [b]

ii. Bill thicker, its width at frontal antiæ equal to more than two-thirds the distance from nostril to tip of maxilla.

j. Smaller (wing not more than 60 mm.).

k. Tail much more than three-fourths (usually more than four-fifths) as long as wing; anterior toes more deeply cleft, the basal phalanx of middle toe united to outer toe for less than entire length; bill more depressed basally, its depth at frontal antiæ much less than its width at same point; nostril in anterior end of nasal fossæ ..... **Tyranniscus** (p. 405)

kk. Tail not more (usually less) than three-fourths as long as wing; anterior toes more extensively coherent basally, the middle toe united to outer for whole of its basal phalanx; bill deeper basally, its depth at frontal antiæ equal to its width at same point; nostril near center of nasal fossæ. **Camptostoma** (p. 411)

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[a] As in the hirundine genera *Stelgidopteryx* and *Psalidoprocne*.

[b] *Pogonotriccus* Cabanis and Heine, Mus. Hein., ii, 1859, 54. (Type, *Muscicapa eximia* Temminck).—*Eupsilostoma* Sclater, Proc. Zool. Soc. Lond., 1860, 68. (Same type.)

The above characters are taken from *Pogonotriccus alleni* Oberholser, a species which may or may not be congeneric with *P. eximius*, which I have not seen.

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jj. Larger (wing more than 65 mm.).

k. Tarsus decidedly longer than middle toe with claw; under parts neither bright yellow nor streaked; no superciliary stripe and no concealed patch of yellow, orange, or red on crown.

l. Bill broader and more depressed basally, its width at frontal antiæ equal to much more than half the length of exposed culmen; tarsus nearly if not quite twice as long as middle toe with claw.....**Sublegatus** (p. 418)

ll. Bill narrower and deeper basally, its width at frontal antiæ not more than half the length of exposed culmen; tarsus much less than twice as long as middle toe with claw .....**Elænia** (p. 423)

kk. Tarsus little if any longer than middle toe with claw; under parts either bright yellow or streaked; a white superciliary stripe or else (*Tyrannopsis*) a yellow concealed crown-patch; a concealed crown-patch of yellow, orange, or red.

l. Bill shorter and much broader, its width at anterior end of nostrils at least equal to length of gonys and twice its depth at same point; under parts pale yellowish posteriorly, whitish anteriorly, conspicuously and broadly streaked with grayish.....**Legatus** (p. 438)

ll. Bill longer and narrower, its width at anterior end of nostrils much less than length of gonys and much less than twice its depth at same point; under parts bright yellow, becoming white on throat, unstreaked.

m. Bill relatively much smaller (about half as long as head, the exposed culmen little if any longer than middle toe without claw), much narrower, its width at anterior end of nostrils equal to much less than half the length of exposed culmen, and little if any more than its depth at same point; nasal fossæ narrower and oval anteriorly, the nostril midway between tomium and culmen, with overhanging membrane scarcely wider than nasal opening; tail more than three-fourths as long as wing; smaller (wing not more than 100 mm.); a broad white superciliary stripe..**Myiozetetes** (p. 442)

mm. Bill relatively much larger (about two-thirds as long as head, the exposed culmen decidedly longer than middle toe without claw), much broader, its width at anterior end of nostrils equal to half the length of exposed culmen and much greater than its depth at same point; nasal fossæ very broad and subtruncate anteriorly, the nostril much nearer to tomium than to culmen, with overhanging membrane about twice as wide as nasal opening; tail much less than three-fourths as long as wing; larger (wing more than 100 mm.); no white superciliary stripe.

Tyrannopsis (extralimital)[a]

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[a] *Tyrannopsis* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209. (Type, *Muscicapa sulphurea* Spix.)

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hh. Bill relatively larger or longer, the exposed culmen equal to or longer than outer toe with claw, or else distinctly depressed and with rictal bristles conspicuously developed.

i. Bill narrower, its width at anterior end of nostrils equal to not more than half the distance from nostril to tip of maxilla and but little greater than its depth at same point; wing less than 80 mm.

j. Rictal bristles very weak or obsolete; nostril roundish, nonoperculate; tail shorter than distance from bend of wing to end of distal secondaries.

k. Ninth primary normal (longer than tenth and not attenuated); tail much more than three-fourths as long as wing; under parts not streaked .....**Pipromorpha** (p. 452)

kk. Ninth primary abnormally reduced (not longer, sometimes shorter, than tenth, much attenuated, with tip subfalcate or spatulate); tail little if any more, sometimes less, than three-fourths as long as wing; under parts streaked.

Mionectes (p. 459)

jj. Rictal bristles distinct; nostril narrow, longitudinal, operculate; tail equal to or longer than distance from bend of wing to end of distal secondaries.....**Leptopogon** (p. 462)

ii Bill broader, its width at anterior end of nostrils equal to decidedly more than half the distance from nostril to tip of maxilla and much greater than its depth at same point, or else (*Tolmarchus*) wing 80 mm. or more.

j. Tail as long as or longer than wing, strongly rounded.

Capsiempis (p. 468)

jj. Tail shorter than wing, slightly rounded, even, or emarginate.

k. Sexes very different in color, the adult males with under parts and crested pileum scarlet or orange, adult females tinged with red or orange and more or less streaked below, young streaked below and squamated with whitish above; or else both sexes entirely deep grayish brown (usually more or less tinged with reddish).....**Pyrocephalus** (p. 471)

kk. Sexes alike in color, without red or orange, except sometimes a concealed spot on center of crown.

l. Basal phalanx of middle toe wholly united to outer toe.

m. Second phalanx of outer toe entirely free from outer toe; larger (wing more than 60 mm.); under parts not ochraceous-buff.

n. Tarsus twice as long as middle toe without claw; length of exposed culmen equal to that of middle toe with claw and equal to twice width of bill at frontal antiæ.....**Nesotriccus** (p. 481)

nn. Tarsus less than twice as long as middle toe without claw; length of exposed culmen less than that of middle toe with claw and less than twice width of bill at frontal antiæ.

o. Outer toe nearly as long as middle toe; outermost (tenth) primary equal to or longer than third; larger (wing 70 mm. or more)..**Cnipodectes** (p. 483)

oo. Outer toe decidedly shorter than middle toe; outermost (tenth) primary shorter than third; smaller (wing less than 70 mm.)

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p. Outermost (tenth) primary much shorter than secondaries, the next (ninth) shorter than fifth; rictal bristles excessively developed, reaching beyond tip of bill.....**Myiobius** (p. 486)

pp. Outermost (tenth) primary not shorter than secondaries, the next (ninth) not shorter than fifth; rictal bristles smaller, not reaching to tip of bill.

q. Outermost (tenth) primary equal to first, the ninth equal to fifth; tail much longer than distance from bend of wing to end of distal secondaries; no yellow on crown nor rump nor rufous on tail.....**Aphanotriccus** (p. 491)

qq. Outermost (tenth) primary equal to second or third, the ninth longer than fifth or sixth; tail much shorter than distance from bend of wing to end of distal secondaries; a yellow crown-spot and rump-patch and tail at least partly rufous.....**Myiotriccus** (extralimital)[a]

mm. Second phalanx of middle toe partly united to outer toe; smaller (wing less than 55 mm.); under parts ochraceous-buff.....**Terenotriccus** (p. 493)

ll. Basal phalanx of middle toe not wholly united to outer toe.

m. Longer primaries not attenuated at tip.

n. Bill distinctly depressed, its width at frontal antiæ nearly equal to more than twice its depth at same point; or else (*Sayornis*, *Myiarchus*, part) no white or buffy superciliary stripe nor yellow or orange crown-spot.

o. Bill broader and more depressed, its width at frontal antiæ equal to or longer than gonys and much more than twice its depth at same point, the lateral outlines convex subbasally, concave terminally, the tip more or less distinctly constricted; rictal bristles larger and stronger.

p. Bill smaller or shorter, the exposed culmen shorter than middle toe with claw; tarsal envelope not typically exaspidean (*Pyrrhomyias*, *Mitrephanes*) or else (*Deltarhynchus*) nostrils wholly exposed, opening almost vertically.

q. Distinctly crested; tarsal envelope not truly exaspidean (the outer side of acrotarsium not extending to posterior margin of tarsus, except, sometimes, for one or two of the lower divisions, a separate series of scutella occupying most if not all of the posterior margin); nostrils partly concealed, narrow, longitudinal, operculate, opening laterally.[b]

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[a] *Myiotriccus* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 207. (Type, *Tyrannula phœnicura* Sclater.)

[b] The tarsal envelope in these two genera is, in fact, almost quasi-pycnaspidean or quasi-holaspidean, and therefore represents a decided step toward the type of scutellation of some supposed Cotingine genera; nevertheless, there is more difference from the latter than from the tarsal envelope in those genera of true Tyrannidæ in which there is a similar but shorter series of scutella, more or less extensive but usually confined to the upper half or less of the posterior margin of the tarsus.

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r. Crest bushy, partly yellow; general color, including wings and tail, rufous.
Pyrrhomyias (extralimital)[a]

rr. Crest pointed, wholly brown or dusky; no rufous on upper parts (including wings and tail.).....**Mitrephanes** (p. 496)

qq. Not crested; tarsal envelope typically exaspidean; nostrils wholly exposed, circular, nonoperculate, opening almost vertically.
Deltarhynchus (p. 502)

pp. Bill larger, the exposed culmen equal to or longer than middle toe with claw or else (*Nuttallornis*) the latter decidedly longer than tarsus.

q. Tarsus decidedly shorter than middle toe with claw; tail not more than two-thirds as long as wing; longest primaries exceeding distal secondaries by much more than one-third the total length of wing, the tenth (outermost) longer than seventh; a conspicuous white silky tuft on each side of rump..**Nuttallornis** (p. 504)

qq. Tarsus little, if any, shorter (usually longer) than middle toe with claw; tail much more than two-thirds as long as wing; longest primaries exceeding distal secondaries by not more (usually much less) than one-third the total length of wing, the tenth (outermost) shorter than seventh (usually shorter than sixth).

r. Tail less than eight-ninths as long as wing, or else tenth (outermost) primary much longer than fifth; tarsus less than one-fifth as long as wing; tenth primary longer than fifth; bill relatively narrower, with lateral outlines straighter; rictal bristles shorter; tail always emarginate..**Myiochanes** (p. 508)

rr. Tail at least eight-ninths as long as wing (usually more), tarsus more than one-fifth as long as wing; tenth (outermost) primary not longer (usually shorter) than fifth; bill relatively broader and more depressed, with lateral outlines more convex; rictal bristles longer; tail less deeply emarginate, sometimes double-rounded or rounded.

s. Bill with lateral outlines more curved, the tip more constricted; under parts with neither yellow nor pale gray.
Blacicus (p. 529)

ss. Bill with lateral outlines straighter, the tip not distinctly if at all constricted; under parts pale gray anteriorly, light yellow posteriorly.....**Myiarchus**, part (p. 607)

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[a] ***Pyrrhomyias*** Cabanis and Heine, Mus. Hein., ii, 1859, 66. (Type, *Tyrannula vieillotioides* Lafresnaye.)

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oo. Bill narrower and relatively deeper, its width at frontal antiæ decidedly less than length of gonys and not much if any more (sometimes less) than twice its depth at same point, the lateral outlines straight, its tip not constricted; rictal bristles relatively shorter or weaker.

p. Smaller (wing less than 80 mm., tarsus not much more than 16 mm., usually much less).

q. A concealed yellow crown-spot; under parts streaked.....**Myiophobus** (p. 541)

qq. No yellow crown-spot; under parts not streaked. .....**Empidonax** (p. 545)

pp. Larger (wing not less than 80 mm. or else tarsus 19 mm. or more).

q. Bill narrower basally, tapering less rapidly to tip.

r. Outermost (tenth) primary longer than fourth: tarsus much less than twice as long as middle toe without claw.....**Sayornis** (p. 592)

rr. Outermost (tenth) primary shorter than first; tarsus twice as long as middle toe without claw .....**Eribates** (p. 605)

qq. Bill broader basally, tapering more rapidly to the more pointed tip....**Myiarchus**, part (p. 607)

nn. Bill not distinctly depressed, its width at frontal antiæ equal to much less than twice its depth at same point, or else (*Megarhynchus*, *Myiodynastes*, part) a white or buffy superciliary stripe (also a yellow or orange-rufous crown-spot in adults).

o. Bill relatively broader, its width at anterior end of nostrils equal to more than half the distance from nostril to tip of maxilla, its lateral outlines more or less convex; or else exposed culmen not longer than tarsus.

p. Larger (wing more than 100 mm.); exposed culmen decidedly longer than tarsus; rictal bristles stronger.

q. Exposed culmen shorter than tarsus and first phalanx of middle toe, and gonys less than twice as long as mandibular rami, the bill relatively narrower and deeper, with lateral outlines straighter and converging more rapidly toward tip, the culmen straighter and less distinctly ridged; under parts not bright yellow (if pale yellow or whitish this more or less streaked with dusky or else much rufous on wings and tail.).....**Myiodynastes** (p. 653)

qq. Exposed culmen longer than tarsus and first phalanx of middle toe and gonys twice as long as mandibular rami, the bill relatively broader and more depressed, with lateral outlines more convex and less rapidly converging for greater part of their length, and with culmen more convex and distinctly ridged; under parts bright yellow (throat white.).....**Megarynchus** (p. 663)

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pp. Smaller (wing less than 85 mm.); exposed culmen little, if any, longer than tarsus; rictal bristles weaker.....**Coryphotriccus** (p. 667)

oo. Bill relatively narrower, its width at anterior end of nostrils equal to less than half the distance from nostrils to tip of maxilla (or else, in *Tolmarchus*, the tenth primary longer than fourth), the lateral outlines not at all convex; exposed culmen longer than tarsus (usually longer than middle toe with claw).

p. Tenth (outermost) primary shorter than first; tail shorter than distance from bend of wing to end of distal secondaries (not more than four-fifths total length of wing); bill narrower and more compressed, its width at posterior end of nostrils equal to less than half the distance from nostril to tip of maxilla and less than one and a half times its depth at same point; gonys much less than twice as long as mandibular rami; latero-frontal feathers dense, forming a compact antrorse tuft covering nostrils; rictal bristles weaker; a broad white superciliary stripe; under parts bright yellow (throat sometimes white). **Pitangus** (p. 669)

pp. Tenth (outermost) primary longer than fourth; tail longer than distance from bend of wing to end of distal secondaries, much more than four-fifths as long as wing; bill broader and more depressed, its width at posterior end of nostrils equal to one-half the distance from nostril to tip of maxilla and one and a half times its depth at same point; gonys very nearly twice as long as mandibular rami; latero-frontal feathers scant, not forming a distinct tuft, nor hiding nostrils, their bristly tips much longer; rictal bristles larger; no white superciliary stripe; under parts grayish white..**Tolmarchus** (p. 676)

mm. Longer primaries attenuated at tip..**Tyrannus** (p. 685)

aa. Tail forficate, the lateral rectrices much more than twice as long as middle pair. **Muscivora** (p. 714)

Genus COPURUS Strickland.

Copurus[a] STRICKLAND, Proc. Zool. Soc Lond., 1841, 28. (Type, *Muscicapa filicauda* Spix = *M. colonus* Vieillot.)

Rather small Tyrannidæ (wing about 70–85 mm.) with very short broad bill (exposed culmen not much longer than the basal width and shorter than middle toe without claw), middle pair of rectrices elongated (excessively so in adult males) and with their webs greatly reduced basally, and coloration mostly uniform black or dusky.

Bill very short (exposed culmen decidedly shorter than middle toe without claw), broadly triangular in vertical profile, its width at

[a] From "κώπη, an oar; οὐρά, the tail."

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frontal antiæ at least equal to (sometimes decidedly greater than) distance from nostril to tip of maxilla; culmen not distinctly ridged, nearly straight for most of its length, gradually but decidedly decurved terminally, the tip of maxilla finely uncinate; gonys not longer (sometimes shorter) than mandibular rami, slightly but distinctly convex. Nostril large, nearly circular, occupying anterior end of nasal fossæ. Rictal bristles obvious, but small; bristly tips of frontal feathers and those of chin not conspicuous. Wing rather large, with longest primaries exceeding secondaries by more than length of tarsus; ninth, eighth, and seventh primaries longest and subequal, the tenth and sixth but little shorter (in *C. leuconotus*) or shorter than fifth (in *C. colonus*). Tail about as long as wing from bend to end of secondaries (*C. colonus*) or decidedly shorter (*C. leuconotus*), even; the rectrices broad, but the middle pair elongated (excessively so in adult males), very narrow, broadest terminally and constricted near middle portion where the webs almost disappear. Tarsus stout, as long as middle toe with claw (*C. leuconotus*) or slightly longer (*C. colonus*), its scutellation typically exaspidean, with the two edges of the acrotarsium in contact on lower posterior portion of the tarsus (at least in *C. leuconotus*), the transverse segments distinct; basal phalanx of middle toe wholly united to outer toe, about half adherent to inner toe; lateral toes equal in length in *C. leuconotus*, the outer slightly longer than inner in *C. colonus*, both decidedly shorter than middle toe; hallux about as long as inner toe, but much stouter, its claw shorter than the digit; all the claws strong, moderately curved, sharp.

Coloration.—Plain black, with pileum gray and white and a spot of white or pale gray on rump (a white streak down middle of back in one species). Young entirely sooty blackish.

Nidification.—Nest in holes of trees. Eggs unknown.

Range.—Southern Honduras to western Ecuador, southern Brazil, and Paraguay. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF COPURUS.

a. Back entirely black. (*Copurus colonus.*)

b. Pileum and hindneck pale gray, fading gradually into white on forehead and superciliary region. (Brazil, south of Amazon River, eastern Ecuador, and eastern Peru.).....**Copurus colonus colonus** (extralimital) [a]

[a] *Muscicapa colonus* Vieillot, Nouv. Dict. d'Hist. Nat., xxi, 1818, 448 (Paraguay; based on *Colon* Azara, Apunt. Parag., ii, 114).—*C[opurus] colonus* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 41; Pelzeln, Orn. Bras., 1871, 100; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 50, part.—*Platyrhynchos platurus* Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 17 (Brazil).—*Muscipeta leucocilla* Hahn, Ausl. Vög., Lief. 9, pl. 2 (South America).—*P[ipra] atra* Thunberg, Mém. Acad. Imp. Sci. St. Petersb., viii, 1822, 283, 287 (Brazil).—*Platyrhynchus filicauda* Spix, Av. Bras., ii, 1825, 12, pl. 14.—*C[opurus] filicaudus* Strickland, Proc. Zool. Soc. Lond., 1841, 29.—*Copurus filicauda* Sclater, Proc. Zool. Soc. Lond., 1854, 113 (Quijos, Ecuador).—*Muscipeta monacha* Maximilian, Beitr. Naturg. Bras., iii, 1831, 925.—*C[opurus] funebris* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 41, footnote (Minas Geraes, s. Brazil; coll. Berlin Mus.;= young).

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bb. Pileum and hindneck dark gray (the feathers dusky centrally) replaced abruptly by white on forehead and superciliary region. (Colombia to northern Peru.) **Copurus colonus fuscicapillus** (extralimital) [a]

aa. Back with a gray or grayish white median stripe. (Honduras to Cayenne and western Ecuador.) ..... **Copurus leuconotus** (p. 351)

COPURUS LEUCONOTUS Lafresnaye.

WHITE-BACKED COPURUS.

Adult male.—Pileum and hindneck deep sooty gray (the feathers darker centrally), margined anteriorly and laterally by a rather broad band of white, extending across forehead and along superciliary and supra-auricular regions; median portion of back broadly streaked with pale gray or grayish white; rump grayish white; rest of plumage plain black, passing on posterior under parts into dark sooty grayish; the center of abdomen suffused with whitish; bill and feet black; iris dark brown; length (skins), 205–242 (228); wing, 68.5–77.5 (72.7), tail (elongated middle rectrices), 142–174 (161.7); exposed culmen, 8.5–9.5 (9); tarsus, 12.5–14.5 (13.4); middle toe, 8.5–10 (9.3).[b]

Adult female.—Similar to the adult male, but slightly smaller, elongated middle rectrices shorter, black of under parts duller, sometimes more extensively suffused with whitish on abdomen, and color of pileum averaging darker; length (skins), 180–212 (197); wing, 66.5–70.5 (67.8); tail (elongated middle rectrices), 116–142.5 (129); exposed culmen, 8.5–9.5 (9.2); tarsus, 13–14 (13.4); middle toe, 8.5–10 (9.3).[c]

Young.—Entirely plain sooty blackish, the under parts slightly paler and grayer.

Southern Honduras (Segovia River) through eastern Nicaragua (Chontales; Los Sábalos; Rio Escondido), eastern and central Costa Rica (Rio Frio; Talamanca; Jiminez; Pacuare; Tucurriqui; Turrialba; Carrillo; Bonilla; San José), Panama (Santa Fé; Paraiso; Loma del Leon; Panama), Colombia (Bogota; Remedios; Rio Gaupi; Bucaramanga) to western Ecuador (Esmeraldas; Pambilár; Foreste del Rio Peripa) and Cayenne.

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[a] *Copurus fuscicapillus* Sclater, Proc. Zool. Soc. Lond., 1861, 381 (Bogota, Colombia; coll. P. L. Sclater); Cat. Am. Birds, 1862, 204.—*Copurus colonus* (not *Muscicapa colonus* Vieillot) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 50, part.—*Copurus colonus fuscicapillus* Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1896, 357 (La Merced and La Gloria, Peru; crit.).

Judging from the material examined this seems to be a perfectly good form, the differences presented being strictly geographical.

[b] Nine specimens.

[c] Ten specimens.

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Copurus leuconotus LAFRESNAYE, Rev. Zool., 1842, 335 ("Bolivia;" error).—BONAPARTE, Consp. Av., i, 1850, 194.—SCLATER, Proc. Zool. Soc. Lond., 1858, 71 (e. Ecuador); 1860, 294 (Esmeraldas, w. Ecuador); 1861. 382 (Guiana; Colombia; Ecuador); Cat. Am. Birds, 1862, 204 (Cayenne; Bogota. Colombia; Esmeraldas, w. Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 51 (Chontales, Nicaragua; Tucurrique and San José, Costa Rica; Santa Fé, Veragua; Lion Hill and Paraiso Station, Panama R. R.; Remedios and Bogota, Colombia; Cayenne; Esmeraldas, w. Ecuador).—LAWRENCE, Ann. Lyc. N. Y.. vii, 1862, 327 (Lion Hill, Panama R. R.); ix, 1868, 110 (San José and Pacuare, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (Lion Hill, Panama; crit.); 1867, 279 Blewfields R., Nicaragua); 1879, 511 (Remedios, Antioquia, Colombia.—SALVIN, Proc. Zool. Soc. Lond., 1867, 146 (Santa Fé, Veragua; Costa Rica); Ibis, 1872, 318 (Chontales, Nicaragua); 1885, 291 (British Guiana).—FRANTZIUS, Journ. für Orn., 1869, 306 (Turrialba, Costa Rica).—WYATT, Ibis, 1871, 332 (Colombia).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 402 (Los Sábalos, Nicaragua).—BERLEPSCH, Journ. für Orn., 1884, 297 (Bucaramanga, Colombia; crit.); 1885, 117 (Esmeraldas, w. Ecuador).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 4.—RIDGWAY, Proc. U. S. Nat. Mus., x, 1888, 589 (Segovia R., s. Honduras).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 504 (Rio Escondido, Nicaragua; habits).—SALVADORI and FESTA, Boll. Mus. Torino, xv, no. 362, 1899, 4 (Foreste del Rio Peripa, w. Ecuador).—HARTERT, Novit. Zool., ix, 1902, 607 (Pambilár, n. w. Ecuador).

Copurus pœcilonotus CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 703.

[*Copurus*] *pœcilonotus* GRAY, Hand-list, i, 1869, 346, no. 5215.

C[*opurus*] *leuconotus* CABANIS and HEINE, Mus. Hein., ii, 1859, 42 (Colombia).

[*Copurus*] *leuconotus* GRAY, Hand-list, i, 1869, 346, no. 5214.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 44.—SHARPE, Hand-list, iii, 1901, 98.

Genus ONYCHORHYNCHUS Fischer.

Muscivora (not of Lacépède, 1799) CUVIER, "Tabl. Gén. d. Class. d'An., 1800." (Type, *Todus regius* Gmelin.)

Onychorhynchus FISCHER, Zoognasia, 1813, 31, 42. (Type, by implication, *Todus regius* Gmelin.) (See Oberholser, Auk, xviii, 1901, 193.)

Muscipeta CUVIER, Règne Anim., i, 1817, 344. (Type, *Todus regius* Gmelin.)

Todus (not of Linnæus, 1766) BONNATERRE, Tabl. Enc. Méth.. 1792, 267. (Type, *T. regius* Gmelin.)

Megalophus SWAINSON, Classif. Birds, ii, 1837, 257. (Type, *Muscipeta regia* Maximilian = *Muscivora swainsoni* Peezeln.)

Medium sized Tyrannidæ (wing about 75-90 mm.) with very long, broad and flat bill and very conspicuous fan-shaped transverse crest of yellow, orange, or red, tipped with black and steel blue or metallic violet.

Bill about as long as head (exposed culmen equal to tarsus and about half the middle toe), conspicuously depressed, its width at frontal antiæ equal to twice its depth at same point, wedge-shaped in vertical profile with lateral outlines slightly convex to near the tip, where they are faintly concave and more strongly converged; culmen conspicuously ridged, nearly straight to near tip, where abruptly decurved, the tip of maxilla rather strongly uncinate; gonys longer than mandibular rami, nearly straight; maxillary tomium nearly straight, distinctly

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notched subterminally. Nostril mostly exposed, rather large, longitudinally oval, non-operculate. Rictal bristles very strong, the longest at least half as long as bill; latero-frontal bristles well developed, extending much beyond nostrils. Wing moderate, much rounded, the longest primary exceeding secondaries by much less than length of exposed culmen (by about length of tarsus or slightly less); outermost (tenth) primary shorter than secondaries; ninth equal to or shorter than fifth; seventh longest, the eighth and sixth slightly shorter. Tail about as long as wing from bend to end of secondaries, slightly rounded, the rectrices rather narrow. Tarsus much shorter than exposed culmen, its scutellation typically exaspidean; middle toe, with claw, shorter than tarsus, united to outer toe by slightly more than its basal phalanx, to inner toe by about half its basal phalanx; outer toe slightly shorter than middle, much longer than inner toe; hallux about as long as inner toe, but much stouter, its claw decidedly shorter than the digit; all the claws moderately curved, sharp, much compressed. A very conspicuous and remarkable fan-shaped crest springing from center of crown, expanding transversely, the feathers with broadly rounded and semi-decomposed tip.

Coloration.—Above brown, sometimes more or less mottled or barred with paler and dusky, the rump and under parts buff or ochraceous, sometimes barred or transversely mottled with brown or dusky; tail ochraceous or tawny brown; crest yellow, orange, or red, the feathers broadly tipped with black and dark steel blue or metallic violet.

Nidification.—Nest pensile, enclosed within a mass of loose straggling material, usually suspended over water. Eggs (2) dull reddish white, encircled by a broad belt of dull reddish brown spots. (Lawrence, Ann. Lyc. N. Y., vii, 1862, 329.)

Range.—Southern Mexico to southeastern Brazil and western Ecuador. (Four species.)

KEY TO THE SPECIES AND SUBSPECIES OF ONYCHORHYNCHUS.

a. Chest barred with olive-brown.

b. Tail russet; upper tail-coverts distinctly barred with dusky; sides and flanks distinctly barred; general coloration darker and size smaller (wing of male 72–80 mm.). (Amazon Valley, Cayenne, and Guiana.)

Onychorhynchus coronatus (extralimital)[a]

[a] *Muscicapa coronata* Muller, Syst. Nat. Suppl., 1776, 168 (based on *Tyran hupé, de Cayenne* Daubenton, Pl. Enl., pl. 289).—*Muscivora coronata* Cassin, Proc. Ac. Nat. Sci. Phila., 1866, 38.—*Todus cristatus* Schreber, Naturf., xvii, 1782, 21, pl. 7.—[*Todus*] *regius* Gmelin, Syst. Nat., i, pt. i, 1788, 445 (based on *Tyran hupé, de Cayenne* Daubenton, Pl. Enl., pl. 289).—*Platyrhinchus regius* Vieillot, Enc. Méth., 1823, 843.—[*Megalophus*] *regius* Bonaparte, Consp. Av., i, 1850, 183.—*M*[*uscivora*] *regia* Gray, List Gen. Birds, 1841, 42; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 192.—*Onychorhynchus regius* Oberholser, Auk, xviii, Apr., 1901, 194.—*Onychorhynchus castelnaui* Deville, Rev. Zool., Feb., 1849, 56 (Sarayacu, e. Ecuador).—*Megalophus castelnaudi* Des Murs, Zool. Voy. Casteln., Ois., 1856, 55.—*Muscivora castelnaudi* Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 981.

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bb. Tail ochraceous; upper tail-coverts not barred; sides and flanks not barred; general coloration paler and size larger (wing of male, 82–92). (*Onychorhynchus mexicanus*.)

c. Slightly larger and paler, with bill relatively longer and narrower. (Southern Mexico to Guatemala.) ..... **Onychorhynchus mexicanus mexicanus** (p. 354)

cc. Slightly smaller and darker, with relatively shorter and broader bill. (Nicaragua to Colombia.) ..... **Onychorhynchus mexicanus fraterculus** (p. 356)

aa. Chest not barred.

b. Back, etc., brown; under parts and tail ochraceous-buff. (Brazil.)

Onychorhynchus swainsoni (extralimital) [a]

bb. Back, etc., raw sienna or clay color; under parts and tail orange-ochraceous or ochre-yellow. (Western Ecuador.)

Onychorhynchus occidentalis (extralimital) [b]

ONYCHORHYNCHUS MEXICANUS MEXICANUS (Sclater).

MEXICAN ROYAL FLYCATCHER.

Adult male.—Conspicuous fan-shaped crest orange-vermilion to scarlet-vermilion, the longer feathers broadly tipped with metallic bluish violet or steel blue (more rarely greenish blue) and black, the latter in form of a triangular, cordate, or roundish subterminal spot; many of the smaller feathers with a much smaller, roundish terminal spot of black; occiput, hindneck, back, upper rump, scapulars, and wings plain olive-brown, the middle (sometimes also some of the lesser) wing-coverts with a small triangular terminal spot of buff, the greater coverts similarly marked or narrowly tipped with the same, the tertials margined terminally with buff, immediately preceded by a dusky line; lower rump and upper tail-coverts buff-yellow or yellowish buff; tail tawny-ochraceous, passing gradually into brownish terminally, the rectrices with a narrow terminal margin of buff; chin and throat very pale yellowish buff or buffy whitish; rest of under parts ochre-yellow (deeper and more ochraceous on sides, flanks, and under tail-coverts), the chest more or less distinctly barred with olive-brown, which on sides of chest becomes nearly uniform; maxilla dusky horn color, mandible paler (yellowish in life); iris brown;[c] legs and feet pale brownish (fleshy yellow in life);[c] length (skins), 166–179 (174); wing, 87.5–91.5 (89.2); tail, 71–75 (73.6); exposed culmen, 25–27 (26); tarsus, 17–17.5 (17.1); middle toe, 11–12 (11.6).[d]

Immature male.—Similar to the adult male but color of crest more orange, back and scapulars more or less barred with dusky and buffy, upper tail-coverts with a few narrow dusky bars or small spots, and rectrices with a subterminal bar of dusky.

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[a] *Muscivora swainsoni* Pelzeln, Sitz. Ak. Wiss. Wien, xxxi, 1858, 326; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 192.

[b] *Muscivora occidentalis* Sclater, Proc. Zool. Soc. Lond., 1860, 282 (Babahoyo, w. Ecuador; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 194, pl. 15.—*Onychorhynchus occidentalis* Oberholser, Auk, xviii, Apr., 1901, 194.

[c] Sumichrast, manuscript.

[d] Eight specimens.

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Adult female.—Similar to the adult male but color of crest ochre-yellow or orange-ochraceous instead of red; length (skins), 154–174 (163); wing, 81–84.5 (82.2); tail, 66–70 (68.5); exposed culmen, 22.5–24.5 (23.6); tarsus, 16–16.5 (16.4); middle toe, 11–11.5 (11.3).[a]

Southern Mexico, in States of Vera Cruz (Cordova; Buena Vista; Motzorongo), Oaxaca (Acatepec; Santa Efigenia; Tapana), Tabasco (Teapa), and Yucatan (Merida; Panabá), to Guatemala (Cajabon; Choctum; Coban; Chisec; El Paraiso; Rancho Chahak; Rancho Tuilhá; Santo Tomas); Honduras (Chilomo)?

Muscivora mexicana SCLATER, Proc. Zool. Soc. Lond., 1856 (pub. Jan. 26, 1857), 295 (Cordova, Vera Cruz, Mexico; coll. P. L. Sclater); 1858, 301 (Acatepec, Oaxaca; crit.); 1859, 45, part (Mexico); Ibis, 1859, 443 (Vera Cruz; Oaxaca; Guatemala); Cat. Am. Birds, 1862, 225 (Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 193, part (British Honduras; Chisec and El Paraiso, Guatemala).—SALVIN and SCLATER, Ibis, 1859, 124 (Guatemala).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Chilomo, Honduras).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 201 (Merida, Yucatan); Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Tapana and Santa Efigenia, Oaxaca).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Panaba, Yucatan).—SALVIN, Cat. Strickland Coll., 1883, 312 (Coban, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 53, part, pl. 39, figs. 1, 2 (Cordova, Vera Cruz; Acatepec, Tapana, and Santa Efigenia, Oaxaca; Merida and Panabá, Yucatan; British Honduras; Rancho Chahak, Rancho Tuilhá, Choctum, Chisec, El Paraiso, and Coban, Guatemala; Chilomo, Honduras).—LANTZ, Trans. Kansas Acad. Sci. for 1896–97 (1899), 222 (Santo Tomas, Guatemala).

[*Muscivora*] *mexicana* GRAY, Hand-list, i, 1869, 358, no. 5444, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50, part.

Onychorhynchus mexicanus OBERHOLSER, Auk, xviii, Apr., 1901, 194, part.

[*Onychorhynchus*] *mexicanus* SHARPE, Hand-list, iii, 1901, 130, part.

Onychorhynchus mexicanus mexicanus BANGS, Proc. New Engl. Zool. Club, iii, Mar. 31, 1902, 87, part (Buena Vista, Vera Cruz).

[a] Seven specimens.

Mexican and Guatemalan specimens compare in average measurements as follows, average measurements of *O. m. fraterculus* being also given for comparison:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from southern Mexico	88.5	73.3	26.3	17	11.7
Three adult males from Guatemala	90.3	74	25.7	17.2	11.2
Two adult males (*O. m. fraterculus*) from Nicaragua and Costa Rica	85	70.2	24.5	17	11.2
Five adult males (*O. m. fraterculus*) from Panama	86.7	69.8	23.7	17.2	11.7
Two adult males (*O. m. fraterculus*) from Colombia	83.7	66.7	24	16.7	11.2
FEMALES.					
Four adult females from southern Mexico	82.1	69.6	23.8	16.5	11.3
Three adult females from Guatemala	82.3	67	23.2	16.3	11.3
Three adult females (*O. m. fraterculus*) from Costa Rica	78	62.6	22.6	16.2	11.3
Six adult females (*O. m. fraterculus*) from Panama	77.4	63	22.3	15.9	10.7
Two adult females (*O. m. fraterculus*) from Colombia	75.7	58.5	21	15.5	10

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ONYCHORHYNCHUS MEXICANUS FRATERCULUS Bangs.

COLOMBIAN ROYAL FLYCATCHER.

Similar to *O. m. mexicanus* but smaller (except feet), with shorter and relatively broader bill, and slightly darker coloration.

Adult male.—Length (skins), 153–171 (163.4); wing, 82–89 (85.7); tail, 66–72.5 (69.2); exposed culmen, 23–25 (23.9); tarsus, 16.5–18 (17.1); middle toe, 11–12 (11.5).[a]

Adult female.—Length (skins), 145–163 (152.4); wing, 75–79 (77.6); tail, 58–65 (62.9); exposed culmen, 20.5–23 (22.4); tarsus, 15.5–16.5 (16); middle toe, 9.5–11.5 (10.9).[a]

Nicaragua (Los Sábalos; Rio Escondido), Costa Rica (La Palma de Nicoya; Bebedero; Volcan de Miravalles; Atenas; Trojas; Pozo Azul de Pirris; San Ramon), Panamá (Santa Fe de Veragua; Bogaba; Chitra; Calobre; Volcan de Chiriqui; Mina de Chorcha; Calovevora; Loma del Leon; Panama; Paraiso Station), and Province of Santa Marta, Colombia (Manaure; Sierra Nevada; Bonda; Minca).

Muscivora mexicana (not of Sclater, 1856) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295, 329 (Lion Hill, Panama; habits; descr. nest and eggs); ix, 1868, 114 (Atenas, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama; crit.).—SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (Chitra, Calobre, and Santa Fé, Veragua); 1870, 198 (Volcan de Chiriqui, Mina de Chorcha, and Calovevora, Veragua).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San Ramon, Costa Rica).—SALVIN and GODMAN, Ibis, 1879, 202 (Manaure, Santa Marta, Colombia, 2,700 ft.; crit.); Biol. Centr.-Am., Aves, ii, 1889, 53, part (Los Sábalos, Nicaragua; Miravalles, Bebedero, Atenas, San Ramon, and La Palma, Costa Rica; Volcan de Chiriqui, Mina de Chorcha, Calvevorao Chitra, Calobre, Santa Fé, Paraiso Station, and Lion Hill, Panama; n. Colombia).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 396 (La Palma de Nicoya, Costa Rica; habits, etc.); vi, 1883, 402 (Los Sábalos, Nicaragua).—SCLATER, Cat. Birds, Brit. Mus., xiv, 1888, 193, part (Miravalles and Bebedero, Costa Rica; Calovevora, Santa Fé, Volcan de Chiriqui, Mina de Chorcha, Panama, and Paraiso Station, Panama; Manaure and Sierra Nevada, Santa Marta, Colombia).—RICHMOND,

[a] Nine specimens, those from separate geographic areas averaging, respectively, as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Nicaragua and Costa Rica	85	70.2	24.5	17	11.2
Five adult males from Panama	86.7	69.7	23.7	17.2	11.7
Two adult males from Colombia	83.7	66.7	24	16.7	11.2
FEMALES.					
Three adult females from Costa Rica	78	62.6	22.6	16.2	11.3
Six adult females from Panama	77.4	63	22.3	15.9	10.7
Two adult females from Colombia	75.7	58.5	21	15.5	10

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Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Escondido, Nicaragua).—Underwood, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—Bangs, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta); Proc. New Engl. Zool. Cl., ii, 1900, 22 (Lion Hill, Panama).—Allen, Bull. Am. Mus. N. H., xiii, 1900, 145 (Bonda, etc., Santa Marta, Colombia).

[*Muscivora*] *mexicana* Gray, Hand-list, i, 1869, 358, no. 5444, part.—Sclater and Salvin, Nom. Av. Neotr., 1873, 50, part.

Onychorhynchus mexicanus Oberholser, Auk, xviii, April, 1901, 194, part.—Bangs, Proc. New Engl. Zool. Club, iii, 1902, 37 (Bogaba, Panama).

[*Onychorhynchus*] *mexicanus* Sharpe, Hand-list, iii, 1901, 130, part.

Onychorhynchus mexicanus mexicanus Bangs, Proc. New Engl. Zool. Club, iii, Mar. 31, 1902, 87, part (Bogaba and Loma del Leon, Panama).—Thayer and Bangs, Bull. Mus. Comp. Zool., xlvi, 1906, 219 (Sabana de Panama).

Onychorhynchus mexicanus fraterculus Bangs, Proc. New Engl. Zool. Club, iii, Mar. 31, 1902, 86 (Santa Marta, Colombia; coll. E. A. and O. Bangs).

Genus ONCOSTOMA Sclater.

Oncostoma Sclater, Ibis, iv, Jan., 1862, 12; Cat. Am. Birds, Jan. 24, 1862, 208. (Type, *Todirostrum cinereigulare* Sclater.)

Very small Tyrannidæ (wing about 42–53 mm.) with bill rather strongly decurved, with conspicuously arched culmen.

Bill more than half as long as head, strongly decurved, with culmen distinctly arched, its width at frontal antiæ less than twice its depth at same point; exposed culmen about as long as middle toe with claw, strongly and uniformly convex from base to tip, sharply ridged; gonys straight or very faintly convex, about as long as mandibular rami; maxillary tomium regularly concave throughout, distinctly notched subterminally. Nostril wholly exposed, longitudinally elliptical, with broad membrane above and behind. Rictal bristles conspicuously developed, and feathers of frontal antiæ with very distinct long bristly points, those of chin with very indistinct setæ. Wing moderate, excessively rounded; fifth and sixth primaries longest, seventh intermediate between fourth and fifth, eighth about equal to second, ninth shorter than first, tenth (outermost) much shorter than secondaries; longest primaries exceeding secondaries by not more than distance from nostril to tip of maxilla. Tail about four-fifths as long as wing, strongly rounded, the rectrices rather narrow. Tarsus less than one-third as long as wing, slender, the acrotarsium fused, or with transverse divisions barely discernible; middle toe, with claw, about equal to exposed culmen, without claw about half as long as tarsus, its basal phalanx wholly united to outer toe, more than half united to inner toe; outer toe, without claw, reaching nearly to terminal joint of middle toe, the inner toe much shorter, barely reaching middle of subterminal phalanx of middle toe; hallux about as long as inner toe, not conspicuously stouter, its claw shorter than the digit; all the claws moderately curved, very sharp and compressed.

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Coloration.—Plain olive-green above, the pileum sometimes grayer and streaked with dusky; wings and tail dusky with yellowish olive-green edgings; under parts pale yellow, passing into olive on sides, the throat and chest sometimes light gray streaked with whitish.

Nidification.—(Unknown.)

Range.—Southern Mexico to Panama. (Two species.)

KEY TO THE SPECIES OF ONCOSTOMA.

a. Throat and chest light gray, indistinctly streaked with grayish white. (Southern Mexico to Panama.).....**Oncostoma cinereigulare** (p. 358)

aa. Throat and chest light olive-yellow, obsoletely streaked with pale olive. (Panama and Colombia.).....**Oncostoma olivaceum** (p. 360)

ONCOSTOMA CINEREIGULARE (Sclater.)

BENT-BILLED FLYCATCHER.

Adults (*sexes alike*).—Pileum dull slate-gray, more or less tinged with olive,[a] the feathers darker centrally, usually forming more or less distinct streaks; hindneck, back, scapulars, rump, and upper tail-coverts plain olive-green; wings dusky, the lesser and middle coverts margined with olive-green, the greater coverts and remiges edged with olive-green, these edgings on tertials broader and more yellowish; tail dusky with olive-green edgings; sides of head plain gray (nearly mouse gray), the lores somewhat intermixed with whitish; chin and throat grayish white streaked with gray, the chest similar but gray predominating; rest of under parts sulphur yellow, the sides and flanks washed or obsoletely streaked with olive; axillars and under wing-coverts sulphur yellow; inner web of remiges edged with whitish; maxilla brownish black or dusky horn color; mandible pale horn color or whitish, usually darker terminally or laterally; iris white or grayish white; legs and feet flesh color[b] or yellowish.[c]

Adult male.—Length (skins), 81–102 (99); wing, 44.5–53 (49); tail, 31–41 (38.2); exposed culmen, 10.5–12 (10.7); tarsus, 14–16.5 (14.9); middle toe, 6–8 (7.1).[d]

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[a] The amount of olive tinge seems to be dependent on age or season, probably both, younger birds having the pileum dull olive-green, only slightly different from color of back.

[b] Sumichrast, manuscript.

[c] "Clear yellow," Alfaro, manuscript.

[d] Twenty-two specimens.

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Adult female.—Length (skins), 82–100 (89.5); wing, 42.5–51 (45.5); tail, 29–39 (33); exposed culmen, 10–11.5 (10.8); tarsus, 13.5–15.5 (14.5); middle toe, 6.5–7.5 (6.9).[a]

Southern Mexico, in States of Vera Cruz (Cordova; Potrero; Santa Lucrecia; Playa Vicente), Oaxaca (Teotalcingo; Tapana; Guichicovi; Santa Efigenia), Tabasco (Frontera), Yucatan (Tizimin), and Chiapas (Palenque; Tuxtla Gutierrez; Huehuetan) through Guatemala (Choctum; Coban; Retalhuleu; Volcan de Agua); British Honduras (Cayo), Honduras (San Pedro Sula; Truxillo; Rio Blanco), Nicaragua (Rio Escondido), and Costa Rica (Talamanca; Jiménez; Angostura; Pozo Azul de Pirris; Volcan de Miravalles), to Panama (Bogaba; Lion Hill; Panama).

Todirostrum cinereigulare SCLATER, Proc. Zool. Soc. Lond., 1856 (pub. Jan. 26, 1857), 295 (Cordova, Vera Cruz; [b] coll. A. Sallé); 1859, 384 (Playa Vicente, Vera Cruz; Teotalcingo, Oaxaca); Ibis, 1859, 444 (Cordova, Vera Cruz).—LAWRENCE, Ibis, 1862, 12.

Tod[irostrum] cinereigulare SCLATER, Proc. Zool. Soc. Lond., 1857, 84.

[*Todirostrum*] *cinereigulare* GRAY, Hand-list, i, 1869, 348, no. 5259.

Oncostoma cinereigulare SCLATER, Cat. Am. Birds, 1862, 208, pl. 18, fig. 1 (Oaxaca) Cat. Birds Brit. Mus., xiv, 1888, 77 (Oaxaca; n. Yucatan; Vera Paz, Retalhuleu, Coban, and Volcan de Agua, Guatemala; Honduras; Bogaba, Chiriqui).—SALVIN, Ibis, 1866, 194 (Coban); Proc. Zool. Soc., 1870, 196 (Bogaba, Panama).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 111 (Angostura, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (tierra caliente of Vera Cruz).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Guichicovi, Cacoprieto, Tapana, and

[a] Eleven specimens.

Specimens from different geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Vera Cruz, Oaxaca, and Tabasco	49.4	39.1	11	15.4	7
One adult male from Yucatan	49.5	40	11	15	7
Four adult males from Chiapas (2) and Honduras (2)	51.2	39.9	11.3	15.3	7.3
Ten adult males from Costa Rica	48.8	36.7	11.2	15.1	7.1
FEMALES.					
Two adult females from Tabasco	44.5	34	10.7	14.5	6.5
Three adult females from Honduras	44.7	31.7	11	14	6.5
Six adult females from Nicaragua (1) and Costa Rica (5)	46.3	33.3	10.7	14.7	7.2

I am not able to discover any differences in coloration.

[b] In the British Museum catalogue of Tyrannidæ (Cat. B. Brit. Mus. xiv, 1888, 77) a specimen from Oaxaca is designated as "Type of the species," an obvious error, since the species was based upon specimens from Cordova, State of Vera Cruz.

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Santa Efigenia, Oaxaca).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 447 (Tizimin, Yucatan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 14.—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 505 (Rio Escondido, Nicaragua).—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—LANTZ, Trans. Kansas Acad. Sci. for 1896–97 (1899), 222 (Cayo, British Honduras).

[*Oncostoma*] *cinereigulare* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45.—SHARPE, Hand-list, iii, 1901, 104.

ONCOSTOMA OLIVACEUM (Lawrence).

LAWRENCE'S BENT-BILLED FLYCATCHER.

Adults (*sexes alike*).—Above plain olive-green, the pileum very indistinctly streaked with darker; lesser wing-coverts olive-green with central (mostly concealed) portion dusky; middle wing-coverts dusky broadly tipped with olive-yellow; greater coverts dusky, narrowly tipped with olive-yellow and edged with olive-green; remiges and rectrices dusky, edged with olive-green, the tertials broadly edged with pale yellow; under parts light olive-yellow, shaded with olive laterally, the chest and throat sometimes obsoletely streaked with pale olive; axillars and under wing-coverts sulphur or primrose yellow; inner webs of remiges edged with brownish white; bill dusky with pale tomia, the lower base of mandible (usually tip also) pale colored; iris white;[a] legs and feet brownish (in dried skins).

Adult male.—Length (skins), 90–91 (90.5); wing, 44.5–47 (45.8); tail, 32.5–35.5 (33.3); exposed culmen, 10.5–12 (11.3); tarsus,14–15.5 (15); middle toe, 7–7.5 (7.2).[b]

Adult female.—Length (skin), 80; wing, 44; tail, 29.5; exposed culmen, 11.5; tarsus, 14; middle toe, 7.[c]

Panama (Lion Hill Station); Colombia (Bucaramanga)?

Todirostrum olivaceum LAWRENCE, Ibis, iv, Jan., 1862, 12 (Lion Hill, Panama R. R.; coll. G. N. Lawrence).

[*Todirostrum*] *olivaceum* GRAY, Hand-list, i, 1869, 348, no. 5260.

Oncostoma olivacea LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862, 473 (Lion Hill).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 20 (Loma del Leon, Panama).

Oncostoma olivaceum SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (Lion Hill).—(?) BERLEPSCH, Ibis, 1886, 57 (Bucaramanga, Colombia; crit.)—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 77 (Panama, i. e. Lion Hill Station, Panama R. R.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 15.

[*Oncostoma*] *olivaceum* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45.—SHARPE, Hand-list, iii, 1901, 104.

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[a] W. W. Brown, manuscript.

[b] Three specimens from Panama.

[c] One specimen from Panama.

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Genus TODIROSTRUM Lesson.

Todirostrum Lesson, Traité d'Orn., 1831, 384. (Type, *Todus cinereus* Linnæus.)
Todirhamphus (emendation; not *Todiramphus* Lesson, 1826) Kaup, Proc. Zool. Soc. Lond., 1851, 52.
Tricus Cabanis, in Tschudi's Fauna Peruana, Aves, 1846, 164. (Type, *Todus cinereus* Linnæus.)

Very small Tyrannidæ (wing about 47–51 mm.) with bill nearly to quite as long as head, subspatulate, its width at anterior end of nostrils at least twice its depth at same point and equal to decidedly less than half (sometimes less than one-third) the length of exposed culmen; exposed culmen a little longer than middle toe, with claw (except in *T. schistaceiceps*), but much shorter than tarsus, distinctly ridged, nearly if not quite straight to near tip, where rather abruptly decurved, the tip of maxilla minutely uncinate; gonys decidedly longer than mandibular rami; lateral outlines of bill nearly straight for most of their length, but decidedly convex and strongly convergent terminally. Nostril mostly, sometimes wholly, exposed, narrow, longitudinal, overhung by very broad membrane. Rictal bristles well developed; feathers of chin and frontal antiæ with distinct bristly points (except in *T. cinereum*). Wing moderate, much rounded; seventh, sixth and seventh, or seventh and eighth primaries longest, the tenth (outermost) not longer (usually shorter) than first (in *T. schistaceiceps* much shorter than secondaries); longest primary exceeding secondaries by less than length of middle toe without claw. Tail two-thirds to about five-sixths as long as wing, more or less strongly rounded, or (in *T. schistaceiceps*) even, the rectrices narrow (relatively broader in *T. schistaceiceps*). Tarsus nearly twice as long as middle toe without claw (in *T. nigriceps* and *T. guttatum*), to more than twice as long (in *T. cinereum*, *T. signatum*, and *T. schistaceiceps*), slender, with acrotarsial divisions more or less distinct; basal phalanx of middle toe united for entire length to outer toe, for more than half its length to inner toe (in *T. signatum* the cohesion involving almost whole of basal phalanx of middle toe on inner side and part of second phalanx on outer side); outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux about as long as inner toe, its claw decidedly shorter than the digit; all the claws moderately curved, sharp, compressed.

Coloration.—Above plain olive-green, the pileum and hindneck black or slate color; wings and tail blackish with olive-green or yellowish edgings, the former sometimes with two yellow bands, occasionally with chestnut on carpal region; sometimes the upper parts mostly black; under parts yellow, with or without black streaks on chest, the

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throat sometimes white (in one species, *T. schistaceiceps*, the throat streaked white and gray, the chest nearly uniform pale gray, the posterior under parts very pale yellow); in some species a yellow superciliary stripe or supraloral spot. Sexes alike.

Nidification.—Nest (of *T. nigriceps*) attached to near extremity of branch overhanging water, composed of dried grasses, etc., and resembling in appearance a bunch of enlodged drift; entrance a small opening in one side. Eggs immaculate white or with a very few pale ochreous-buff spots.[a]

Range.—Southern Mexico to southern Peru and southwestern Brazil. (About fifteen species.)

I exclude from this genus *Todirostrum rufigene*[b] Sclater and Salvin, *T. lenzi*[c] Berlepsch, and *T. ruficeps* Kaup[d], on account of their bushy crest, much shorter outer primaries, smaller, narrower, and more tapering bill, and very different style of coloration. They constitute the genus *Poecilotriccus*[e] Berlepsch (type *T. lenzi*), to which possibly should be referred *T. capitale*[f] Sclater, a species which I have not seen, and which has the "crown rufous." Count von Berlepsch suggests, however, that this may be the female of *T. picatum*[g] Sclater (also not seen by me) the male of which has the whole pileum and most of other upper parts black, which if really the case may necessitate a slight modification of the color characters as given above, provided, of course, *T. picatum* is a true *Todirostrum*. Even after eliminating the species referred to *Poecilotriccus* the group is still a heterogeneous one, and probably will require further subdivision, but before this is attempted all the known species should be examined. Of those seen by me only *T. signatum* agrees with the type species (*T. cinereum*) in the form of the bill, the other three having the bill much broader, with the lateral

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[a] Cherrie, Auk, vii, 1890, 233, 234.

[b] *Todirostrum rufigene* Sclater and Salvin, Proc. Zool. Soc. Lond., 1877, 522 (Mongi, w. Ecuador; coll. Salvin and Godman).—*Poecilotriccus rufigenis* Berlepsch, Journ. für Orn., 1884, 298.

[c] *Todirostrum lenzi* Berlepsch, Journ. für Orn., 1884, 249, pl. 1, figs. 1, 2. (Bucaramanga, Colombia;. coll. Count von Berlepsch).—*Poecilotriccus lenzi* Berlepsch, Journ. für Orn., 1884, 298.

[d] *Tod[irhamphus] ruficeps* Kaup, Proc. Zool. Soc. Lond., 1851, 52 ("?Mexico;" coll. Derby Mus.).—*Todirostrum ruficeps* Sclater, Proc. Zool. Soc. Lond., 1855, 67, 148; Cat. Birds Brit. Mus., xiv, 1888, 75.—*Todirostrum multicolor* Strickland, Jardine's Contr. Orn., 1852, 42, pl. 85, fig. 2.

[e] See p. 341

[f] *Todirostrum capitale* Sclater, Proc. Zool. Soc. Lond., 1857, 83, pl. 125, fig. 2 (Rio Napo, e. Ecuador; coll. Sir William Jardine); Cat. Birds Brit. Mus., xiv, 1888, 75.

[g] *Todirostrum picatum* Sclater, Proc. Zool. Soc. Lond., 1858, 70 (Rio Napo, e. Ecuador; coll. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 74.

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outlines converging more rapidly and more gradually terminally, the vertical profile being thus more triangular or less spatulate. In *T. schistaceiceps* alone the exposed culmen is shorter than the middle toe with claw, the outermost primary much shorter than the secondaries, and the tail even, with relatively broad rectrices; and the coloration of this species is very different, closely resembling that of *Oncostoma cinereigulare*. *T. nigriceps* is aberrant in its very broad bill (its width at frontal antiæ equal to half the length of exposed culmen) and very short tail (only two-thirds as long as wing), with very narrow rectrices.

KEY TO THE SPECIES AND SUBSPECIES OF TODIROSTRUM.

a. Under parts yellow; pileum with more or less of black.
b. Throat yellow; black of head confined to more or less of pileum.
c. Rectrices black with white tips, the lateral pair with outer web white; no broad yellow supraloral stripe. (*Todirostrum cinereum.*)
d. Smaller (wing averaging less than 45 in male, less than 44 in female); white tip to lateral rectrices smaller; back less clearly and less extensively olive-green; yellow of wings brighter, that of under parts less so.
e. Larger (male averaging wing 44.7, tail 33.6, female averaging wing 43.4, tail 32.7); pileum less extensively black, slate color of hindneck lighter, and back usually more slaty. (Colombia to Peru, Brazil, and Guiana.) **Todirostrum cinereum cinereum** (extralimital) [a]
ee. Smaller (male averaging wing 42.7, tail 33.1, female averaging wing 41.8, tail 32); pileum more extensively black, slate color of hindneck darker, and back usually more olive-green. (Southern Mexico to Panama.) **Todirostrum cinereum finitimum** (p. 364)
dd. Larger (male averaging wing 45.9, tail 37; female averaging wing 44.3, tail 34.2); white tip to lateral rectrices larger; back more clearly and extensively olive-green; yellow of wings paler, that of under parts brighter. (Southwestern Brazil.) **Todirostrum cinereum coloreum** (extralimital) [b]

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[a] [*Todus*] *cinereus* Linnæus, Syst. Nat., ed. 12, i, 1766, 178 (Surinam; based on Brisson, Orn., App., 134).—*Todirostrum cinereum* Lesson, Traité d' Orn., i., 1831, 384; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 69, part.—*Triccus cinereus* Cabanis, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 702.—*Muscicapa meloxantha* Sparrman, Mus. Carls., 1789, pl. 97 (Brazil; coll. Carlsonian Mus.).—*Todus melanocephalus* Spix, Av. Bras., ii, 1824, 8, pl. 9, fig. 2 (Brazil).—[*Todirostrum*] *melanocephalum* Bonaparte, Consp. Av., i, 1850, 182.—*Triccus melanocephalus* Burmeister, Syst. Ueb. Th. Bras., ii, 1854, 495.—*Todirostrum plumbeum* Lawrence, Ann. Lyc. Nat. Hist. N. Y., ix, 1869, 273 (Guasipati, Guayana, Venezuela; coll. G. N. Lawrence; cites *Todus plumbeus* Gmelin, Syst. Nat., i, 444. Lawrence's type is an alcoholic specimen of *T. cinereum*).

[b] *Todirostrum cinereum coloreum* Ridgway, Proc. Biol. Soc. Wash., xix, Sept. 6, 1906, 115 (Corumba, Mattogrosso, s.w. Brazil; coll. Am. Mus. Nat. Hist.).

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cc. Rectrices grayish, without white tips, etc.; a broad supraloral stripe of yellow. (Southeastern Brazil.).....**Todirostrum poliocephalum** (extralimital)[a]

bb. Throat white; whole head and neck, except chin and throat, black. (Costa Rica to Ecuador.).....**Todirostrum nigriceps** (p. 366)

aa. Under parts not yellow; no black on pileum. (Southern Mexico to Colombia and Venezuela.).....**Todirostrum schistaceiceps** (p. 367)

TODIROSTRUM CINEREUM FINITIMUM Bangs.

NORTHERN TODY-FLYCATCHER.

Similar to *T. c. cinereum*,[b] but averaging slightly smaller, pileum more extensively black, slate color of hindneck darker, and back more frequently and more distinctly olive-green.

Adults (*sexes alike*).—Forehead and more or less (sometimes the whole) of crown black; occiput and nape (usually posterior portion of crown also) dark slate color, more or less streaked with black, sometimes uniform slaty black or blackish slate; back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain olive-green, the upper back often more or less inclining to slate color; wings and tail black with yellowish olive-green edgings, these broader and clear sulphur yellow on greater wing-coverts and inner secondaries, the middle wing-coverts broadly tipped or terminally margined with sulphur yellow; lores black, usually margined above by a narrow and indistinct line of yellow, the latero-frontal antiæ also more or less (sometimes wholly) yellow; suborbital region (narrowly) and postocular region black or blackish, passing into blackish slate or slate color on auricular region and sides of neck; malar region and entire under parts, including axillars and under wing-coverts, entirely sulphur yellow or canary yellow; inner webs of remiges edged with brownish white; lateral pair of rectrices with outer web and tip (more or less broad) of inner web white or yellowish white, the remaining rectrices also tipped with whitish, in decreasing extent toward the middle pair; bill black or blackish brown with paler tomia, usually with gonys and lower basal portion of mandible also light colored; iris white or yellow; legs and feet dusky (in dried skins).

Young.—Similar to adults, but yellow of under parts and wing-edgings much paler (more primrose or straw).

Adult male.—Length (skins), 84–105 (93); wing, 41.5–46 (42.7); tail, 31–36 (33.1); exposed culmen, 12.5–15.5 (14.8); tarsus, 17–19.5 (18.5); middle toe, 8–9 (8.6).[c]

[a] *Todus poliocephalus* Maximilian, Beitr. Naturg. Bras., iii, 1831, 965 (Brazil; type in coll. Am. Mus. Nat. Hist.).—*Todirostrum poliocephalum* Sclater, Proc. Zool. Soc. Lond., 1857, 84; Cat. Birds Brit. Mus., xiv, 1888, 71.—*Triccus poliocephalus* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 496.—*T[odirostrum] flavifrons* Lafresnaye, Rev. Zool., Oct., 1846, 361 (Brazil).—*Euscarthmus minutus* Bertoni, Av. Nuev. Parag., 1901, 129 (see Lynch-Arribalzaga, Apunt. Crit. Av. Parag. Bertoni, 1902, 666).

[b] See page 363.

[c] Twenty-five specimens.

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Adult female.—Length (skins,) 84.5–96.5 (92); wing, 40–43.5 (41.8); tail, 28.5–34 (32); exposed culmen, 13.5–15.5 (14.4); tarsus, 16.5–19 (17.9); middle toe, 8–9.5 (8.8).[a]

Southern Mexico, in States of Vera Cruz (Tlalcotalpam; Santecomapam), Tabasco (San Juan Bautista; Teapa), Yucatan (Mujeres Island), and southward through Guatemala (Coban; Choctum; Dueñas; Escuintla; Naranjo; Retalhuleu; San José), British Honduras (Belize; Orange Walk), Honduras (San Pedro; Ceiba; Yaruca), Nicaragua (Greytown; Los Sábalos; Rio Escondido; Sucuyá) and Costa Rica (Turrialba; Pacuare; Volcan de Irazú; Cartago; San José; Nicoya; Bebedero; Volcan de Miravalles) to Panama (Santa Fé de Veragua; David; Bogaba; Volcan de Chiriqui; Calovevora; Calobre; Lion Hill; Paraiso Station; Panama).

[a] Eighteen specimens.

Average measurements of specimens from different geographic areas, together with those of the South American forms, are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Vera Cruz and Tabasco	42.3	33.1	14.2	18.7	8.7
Two adult males from Chiapas	42.7	32.5	15	18.2	8.5
Ten adult males from southern Honduras (1), Nicaragua (1), and Costa Rica (8)	42.7	32.7	13.9	18.5	8.6
Six adult males from Panama	43.3	34.1	14.2	18.5	8.7
Two adult males from Colombia	43.5	32.5	14.5	18.5	9
Eight adult males from Venezuela	44.7	33.2	14.7	18.7	8.6
One adult male from Peru (Chanchamayo)	45	37	14.5	.....	.....
Two adult males from British Guiana	44.7	34.7	14	18.5	8.2
One adult male from Lower Amazon (Santarem)	43.5	30.5	12.5	18	8
Seven adult males from southwestern Brazil (Mattogrosso)	45.9	37	14.3	19.5	9.1
FEMALES.					
Three adult females from Vera Cruz and Tabasco	41	31.8	14	18.5	8.5
Ten adult females from southern Honduras (2), Nicaragua (3), and Costa Rica (5)	41.6	31.6	14.4	17.7	8.8
Five adult females from Panama	42.5	33	14.7	18	8.8
Five adult females from Venezuela	43.2	32.1	14.2	18.4	8.3
Three adult females from southwestern Brazil (Mattogrosso)	44.3	34.2	14.2	18.8	9

After very careful examination and comparison of a series of 108 adults of this species I am not able to confirm all the characters of this form, as given by Mr. Bangs, especially the alleged difference in intensity of the yellow on the underparts, which to me seems, if any different, brighter in South American than in Mexican and Central American skins, instead of the reverse. The difference in coloration of the upper parts is also by no means contsant, but there seems to be an average difference sufficient to separate the two series. The birds from southwestern Brazil (Mattogrosso) are, however, easily separated by the characters given in the key on page 363.

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Todus cinereus (not of Linnæus) BONAPARTE, Proc. Zool. Soc. Lond., 1837, 117 (Guatemala).

Todirostrum cinereum SCLATER, Proc. Zool. Soc. Lond., 1856, 141 (David, Panama); 1857, 203 (Tlalcotalpam, Vera Cruz); 1859, 124 (Belize, British Honduras); Ibis, 1859, 444 (Santecomapam, Vera Cruz; Guatemala); Cat. Am. Birds, 1862, 207, part (Coban, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 69, part (Mujeres I., Yucatan; Belize; Dueñas and Coban, Guatemala; San Pedro, Honduras; Irazú and Bebedero, Costa Rica; Bugaba, Mina de Chorcha, Santa Fé, Panama, and Paraiso Station, Panama).—SCLATER and SALVIN, Ibis, 1859, 124 (Belize); Proc. Zool. Soc. Lond., 1864, 358 (Lion Hill, Panama); 1870, 837 (San Pedro, Honduras).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295 (Lion Hill); viii, 1867, 182 (Greytown, Nicaragua); ix, 1868, 110 (Turrialba and Pacuare, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé and David, Panama); 1870, 196 (Bugaba, Panama); 1888, 423 (Panama); Cat. Strickland Coll., 1882, 301, part (Guatemala).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 62 (Cartago and San José, Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 384, 402 (Sucuyá and Los Sábalos, Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 12, part (Tlalcotalpam, Vera Cruz; Teapa, Tabasco; Mujeres I.; Orange Walk and Belize, British Honduras; Choctum, Coban, Dueñas, Escuintla, and Retalhuleu, Guatemala; San Pedro, Honduras; Sucuyá, Los Sábalos, and Greytown, Nicaragua; Nicoya, Turrialba, Pacuare, Irazú, and San José, Costa Rica; David, Bugaba, Volcan de Chiriqui, Mina de Chorcha, Calovevora, Santa Fé, Calobre, Lion Hill, and Paraiso Station, Panama).—CHERRIE, Auk, vii, 1890, 233 (San José, Costa Rica; nesting habits; descr. nest and eggs).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 504 (Rio Escondido, Nicaragua; habits; descr. nest and eggs).—UNDERWOOD, Ibis, 1896, 437 (Bebedero and Volcan de Miravalles, Costa Rica).—LANTZ, Trans. Kansas Acad. Sci. for 1896-97 (1899), 222 (Naranjo, Guatemala).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 35 (Boquete, Panama, 3,000 to 3,800 ft.); Bull. Mus. Comp. Zool., xxxix, 1903, 147 (Ceiba and Yaruca, Honduras).

Tod[irostrum] cinereum SCLATER, Proc. Zool. Soc., Lond., 1859, 83, part.

[*Todirostrum*] *cinereum* GRAY, Hand-list, i, 1869, 347, no. 5245, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45, part.—SHARPE, Hand-list, iii, 1901, 103, part.

Triccus cinereus CABANIS, Journ. für Orn., 1861, 243 (Costa Rica).

Todirostrum cinereum finitimum BANGS, Proc. Biol. Soc. Wash., xvii, May 18, 1904, 114 (San Juan Bautista, Tabasco, s. Mexico; coll. E. A. and O. Bangs).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 217 (Sabana de Panama).

TODIROSTRUM NIGRICEPS Sclater.

BLACK-HEADED TODY-FLYCATCHER.

Adults (*sexes alike*).—Pileum and sides of head uniform black, faintly glossed with bluish; back, scapulars, rump, and upper tail-coverts plain yellowish olive-green, more yellowish next to black of hindneck, more grayish on rump; wing-coverts glossy black; the middle coverts broadly tipped, the greater coverts broadly edged, with canary yellow; remiges and rectrices dull black with narrow yellowish olive-green edgings, these much broader and pure yellow on inner secondaries; chin and throat white, also a short streak on posterior portion of malar region, separated from white of the throat

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by a narrow extension of black; rest of under parts, including axillars and under wing-coverts, plain canary yellow; inner webs of remiges edged with brownish white; bill black; iris brown;[a] legs and feet dusky (in dried skins).

Adult male.—Length (skins), 72.5–81.5 (75); wing, 37–40.5 (38.6); tail, 23.5–26.5 (25.5); exposed culmen, 11–12.5 (11.8); tarsus, 14.5–15.5 (15.1); middle toe, 7.5–8.5 (7.6).[b]

Adult female.—Length (skins), 65–83 (74); wing, 37.5–38 (37.7); tail, 23–24 (23.5); exposed culmen, 11.5–12 (11.7); tarsus, 15; middle toe, 7.5–8 (7.7).[c]

Costa Rica (Angostura; Jiménez; Cariblanco de Sarapiqué; Bonilla; Reventazon) and southward through Panama (Lion Hill; Panama) and Colombia (Turbo; Bonda; Santa Marta) to Ecuador (Quito; Rio Napo).

Todirostrum nigriceps SCLATER, Proc. Zool. Soc. Lond., May 16, 1855, 66, pl. 84, fig. 1 (Santa Marta, Colombia; coll. P. L. Sclater); Cat. Am. Birds, 1862, 207 (Santa Marta); Cat. Birds Brit. Mus., xiv, 1888, 72 (Panama; Santa Marta; Rio Napo, e. Ecuador).—CASSIN, Proc. Ac. Nat. Sci. Phila., 1860, 144 (Turbo, Colombia).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 330 (Lion Hill, Panama R. R.); ix, 1868, 110 (Angostura, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (Lion Hill; crit.)—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 13 (Angostura, Costa Rica; Lion Hill, Panama; Santa Marta and Turbo, Colombia; Ecuador).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 135 (Santa Marta).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 150 (Bonda, Santa Marta); xxi, 1905, 286 (Bonda; descr. nest and eggs).

Tod[*irostrum*] *nigriceps* SCLATER, Proc. Zool. Soc. Lond., 1857, 84.

[*Todirostrum*] *nigriceps* GRAY, Hand-list, i, 1869, 348, no. 5248.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45.—SHARPE, Hand-list, iii, 1901, 103.

Triccus nigriceps CABANIS and HEINE, Mus. Hein., ii, 1859, 49.

TODIROSTRUM SCHISTACEICEPS Sclater.

SLATE-HEADED TODY-FLYCATCHER.

Adults (*sexes alike*).—Pileum slate color or blackish slate passing into lighter slate color on hindneck, the feathers with indistinct mesial streaks of darker; back, scapulars, rump, upper tail-coverts,

[a] Carmiol, manuscript.

[b] Seven specimens.

[c] Two specimens (from Costa Rica).

Specimens from Costa Rica compare with those from Panama in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Costa Rica	39.2	25.8	11.8	15.5	7.8
Four adult males from Panama	38.2	25.2	11.7	14.7	7.5

I can not detect any color differences. Specimens examined from Colombia and Ecuador are not sexed.

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and lesser wing-coverts plain olive-green; middle, greater, and primary wing-coverts and alula black, the first two broadly tipped with olive-yellow or citron yellow, the greater coverts also narrowly edged with olive-green; remiges and rectrices dusky narrowly edged with yellowish olive-green, the inner secondaries nearly black broadly edged with nearly pure yellow; lores dusky, margined above by a white line or narrow stripe, extending from nostrils to, and involving, upper eyelid, the lower eyelid also partly white; suborbital and auricular regions slate color or slate-gray; malar region, chin, throat, and chest, and upper breast light gray, indistinctly streaked, especially on throat, with white or grayish white; abdomen and median portion of lower breast white or yellowish white; sides, flanks, under tail-coverts, axillars, and under wing-coverts light sulphur yellow, the sides and flanks tinged with olive-green, especially anterior portion of former; bill black, sometimes paler at tip; iris brown; legs and feet brownish or horn color in dried skins, light gray or bluish in life.

Young.—Similar to adults but, pileum and hindneck plain olive, not distinctly different from olive-green of back, etc., general color of throat and chest paler and more olivaceous gray, and mandible pale colored (at least in part).

Adult male.—Length (skins), 84.5–98 (90.5); wing, 41–49 (46.4); tail, 30.5–35.5 (32.7); exposed culmen, 12–14 (13.1); tarsus, 17–20.5 (18.7); middle toe, 8–9.5 (9.1).[a]

Adult female.—Length (skins), 88.5–95 (89.6); wing, 41.5–47.5 (46.4); tail, 30–35.5 (32); exposed culmen, 12.5–14.5 (13.1); tarsus, 17.5–19 (18.4); middle toe, 8.5–9 (8.7).[b]

[a] Nineteen specimens.

[b] Seven specimens.

Specimens from separate geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Mexico (Oaxaca)	46.3	33	12.8	18.8	9
Five adult males from Honduras	45	31.2	13.4	17.9	8.7
Eight adult males from Costa Rica	47.2	33	13.2	19.1	9
One adult male from Panama	44.5	45.5	13	18.5	8.5
Two adult males from Colombia	48.2	33.5	12.7	18.5	8.7
FEMALES.					
Two adult females from Mexico (Tabasco and Oaxaca)	42.7	31	13.5	18.5	8.5
Three adult females from Costa Rica	45.8	32.3	13	18.2	8.6
Two adult females from Panama	45.7	32	12.5	18.7	9

I can not discern any color differences.

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Southern Mexico, in States of Vera Cruz (Playa Vicente), Oaxaca (Santo Domingo; Guichicovi; Tuxtepec) and Tabasco (Teapa; San Juan Bautista) southward through Guatemala (Choctum; Chisec), British Honduras (Orange Walk), Honduras (San Pedro Sula; Ceiba; Yaruca), Nicaragua (Greytown; Los Sábalos; Rio Escondido), Costa Rica (Rio Frio; Guaitil; Pozo Azul de Pirris), Panama (Panama City; Lion Hill) and Colombia (Cartagena; Bonda; Santa Marta) to Venezuela (Maipures; Caicará; El Fraile; Suapure).

Todirostrum schistacciceps SCLATER, Ibis, Oct., 1859, 444 (Oaxaca, Mexico; coll. P. L. Sclater); 1860, 399 (Choctum, Guatemala); Proc. Zool. Soc. Lond., 1859, 384 (Playa Vicente, Vera Cruz); Cat. Am. Birds, 1862, 208, pl. 18, fig. 2 (Oaxaca); Cat. Birds Brit. Mus., xiv, 1888, 74 (Oaxaca; Choctum and Chisec, Guatemala; Panama; Bogota).—SALVIN and SCLATER, Ibis, 1860, 399 (Choctum).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (Lion Hill, Panama R. R.; crit.).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473 (Lion Hill, Panama R. R.); Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Guichicovi, Oaxaca).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 402 (Los Sábalos, Nicaragua).—ZELEDON, Proc. U. S. Nat. Mus., viii, 1885, 108 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 13 (Teapa, Tabasco; Orange Walk, British Honduras; Venezuela, and intermediate localities).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 505 (Rio Escondido and Greytown, Nicaragua; habits).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 135 (Santa Marta, Colombia).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 37 (Maipures, Caicará, El Fraile, and Suapure, Venezuela).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 217 (Sabana de Panama).

[*Todirostrum*] *schistacciceps* GRAY, Hand-list, i, 1869, 348, no. 5250.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45.—SHARPE, Hand-list, iii, 1901, 104.

Triccus schistacciceps HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 140 (Mexico).

(?) *Todirostrum supercilliaris* LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., x, 1874 (pub. Feb.-March, 1871), 9 (Venezuela; coll. G. N. Lawrence).

Genus LOPHOTRICCUS Berlepsch.

Lophotriccus[a] BERLEPSCH, Proc. Zool. Soc. Lond., 1883 (pub. Apr. 1, 1884), 553. (Type, *Todirostrum spiciferum* Lafresnaye.)

Very small Tyrannidæ (wing not more than 55 mm.) with a very conspicuous crest of broad, bicolored feathers, and with outermost primaries not abnormally reduced, the eighth equal to or longer than fifth, the outermost (tenth) at least three-fourths as long as the longest.

Bill more than half as long as head, moderately depressed, rather narrow, its width at anterior end of nostrils equal to about half the distance from nostril to tip of maxilla and less than twice its depth at same point; exposed culmen slightly shorter than middle toe with claw, about one-fifth as long as wing (*L. spicifer*) or decidedly less (*L.*

[a] "λόφος=huppe; τρίκκος=nom. propre."

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squamæcristatus), distinctly ridged, nearly straight to near tip, where gradually decurved, the tip of maxilla very minutely uncinate; gonys longer than mandibular rami, very faintly convex; maxillary tomium straight, minutely notched subterminally. Nostril exposed, longitudinally narrowly elliptical, overhung by broad membrane. Rictal bristles well developed, reaching more than halfway to tip of bill; feathers of chin and frontal antiæ with distinct bristly tips, those of the latter extending across and much beyond nostrils. Wing moderate or rather large, rounded; sixth and seventh primaries longest, the eight and fifth, successively, but little shorter, the ninth about equal to fourth, the tenth (outermost) shorter than first; longest primary exceeding secondaries by less than length of exposed culmen. Tarsus slender, about two-sevenths to nearly one-third as long as wing, the divisions of the acrotarsium obvious on close inspection, but very indistinct; middle toe, without claw, about half as long as tarsus, its basal phalanx wholly united to outer toe, united for most of its length to inner toe; outer toe, without claw, reaching nearly to terminal joint of middle toe, the inner toe decidedly shorter, barely reaching to middle of subterminal phalanx of middle toe; hallux slightly longer than inner toe, its claw shorter than the digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Plain olive-green above, the wings dusky with light olive-green edgings, the tips of middle and greater coverts and edges of tertials yellowish; crest black, the feathers margined with gray or tipped with cinnamon or rufous; under parts pale yellow posteriorly, streaked grayish and yellowish white anteriorly.

Range.—Costa Rica to Venezuela and Peru. (Five species.)

KEY TO THE SPECIES AND SUBSPECIES OF LOPHOTRICCUS.

a. Feathers of crest margined with gray or olive. (Upper Amazon Valley.)
Lophotriccus spiciferus (extralimital).[a]

aa. Feathers of crest margined with cinnamon-rufous or cinnamon (browner on forehead and anterior portion of crown.) (*Lophotriccus squamæcristatus.*)

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[a] *T[odirostrum] spiciferum* Lafresnaye, Rev. Zool., Oct., 1846, 363 (Brazil).—*Todirostrum spiciferum* Sclater, Proc. Zool. Soc. Lond., 1855, 67 (in text), pl. 84, fig. 2.—*Euscarthmus spicifer* Sclater and Salvin, Proc. Zool. Soc. Lond., 1866, 187 (Lower Ucayali, e. Peru).—*L[ophotriccus] spicifer* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 553, footnote.—*Lophotriccus spicifer* Taczanowski, Orn. du Pérou, ii, 1884, 229; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 87.—*Colopterus galeatus* (not *Motacilla galeata* Boddaert) Taczanowski, Proc. Zool. Soc. Lond., 1882, 18 (n. e. Peru).

Lophotriccus subcristatus Allen, Bull. Am. Mus. N. H., iv, Apr. 6, 1892, 53 (El Pilar, Venezuela; coll. Am. Mus. N. H.), belongs to the genus *Colopteryx* and should be known as *Colopteryx galeatus subcristatus*, or perhaps merely as *C. galeatus*, since its distinctness from the latter is doubtful.

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b. Olive-green of back, etc., darker and duller; tips of longer crest feathers paler and duller, more tawny. (Peru.)

Lophotriccus squamæcristatus pileatus (extralimital) [a]

bb. Olive-green of back, etc., lighter and brighter; tips of longer crest feathers deeper and brighter, more rufous.

c. Larger (male averaging wing 54, tail 42, exposed culmen 10.5, tarsus 16); under parts less yellowish. (Colombia; Ecuador?) [b]

Lophotriccus squamæcristatus squamæcristatus (extralimital).c

cc. Smaller (male averaging wing 49.3, tail 35.9, exposed culmen 10, tarsus 15.4); under parts more yellowish. (Costa Rica and Panama.)

Lophotriccus squamæcristatus minor (p. 371)

LOPHOTRICCUS SQUAMÆCRISTATUS MINOR Cherrie.

ZELEDONS' HELMETED FLYCATCHER.

Similar to *L. s. squamæcristatus* but smaller and more brightly colored, with under parts more strongly yellowish.

Adult male.—Forehead and anterior portion of crown brown, the feathers darker centrally, especially those on crown; longer feathers forming the conspicuous broad, truncated or slightly bifid, crest black margined and broadly tipped with cinnamon-rufous; hindneck, back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain bright olive-green; wings and tail dusky with olive-green edgings, these broader and more yellowish on inner secondaries, the middle and greater wing-coverts margined terminally (more or less broadly) with olive-yellow or yellowish olive-green; sides of head olive, more or less tinged with rusty, especially on auricular region; chin and throat pale yellow or yellowish white, more or less broadly streaked

[a] *O[rchilus] pileatus* Cabanis, in Tschudi's Fauna Peruana, Aves, 1845–6, 164 (Peru; "Fiefen Waldregionen").—*Euscarthmus pileatus* Tschudi, Fauna Peruana, Aves, 1845–6, 164, pl. 9, fig. 1 (?).—*Lophotriccus squamicristatus* (not *Todirostrum squamæcrista* Lafresnaye) Taczanowski, Orn. du Pérou, ii, 1884, 230; Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1896, 361 (Garita del Sol, centr. Peru); Sclater, Cat. Birds, Brit. Mus., xiv, 1888, 87, part (Peru).

I base the separation of this form on two specimens from Inca Mines, Peru, in the collection of the American Museum of Natural History, New York City.

[b] I have not seen specimens from Ecuador.)

[c] *T[odirostrum] squamæcrista* Lafresnaye, Rev. Zool., Oct., 1846, 363 (Bogota, Colombia).—*Todirostrum squamicristatum* Sclater, Proc. Zool. Soc. Lond., 1855, 148.—*[Euscarthmus] squamicristatus* Sclater and Salvin, Nom. Av. Neotr., 1873, 45, part.—*Euscarthmus squamicristatus* Goodfellow, Ibis, 1901, 703 (San Nicolas, Santo Domingo, and Guanacillo, w. Ecuador).—*Lophotriccus squamicristatus* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 553 (Chimbo, w. Ecuador); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 87, part (Colombia; Venezuela?; upper Amazons?; Ecuador?).

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with grayish olive or dusky;[a] rest of under parts sulphur yellow, the chest and sides rather strongly tinged with olive-green and more or less distinctly streaked with more grayish olive; axillars and under wing-coverts sulphur yellow; bill blackish or dusky horn color with paler tomia, the lower basal portion of mandible pale colored; iris yellow; legs and feet pale brownish (in dried skins); length (skins), 82.5–97 (92); wing, 48–50.5 (49.3); tail, 35.5–41 (35.9); exposed culmen, 9.5–10.5 (10); tarsus, 14.5–16 (15.4); middle toe, 7.5–8.5 (7.8).[b]

Adult female.—Similar to the adult male, but slightly smaller and with feathers of crest shorter, with black center more concealed and the feathers of forehead and anterior portion of crown margined with rusty or cinnamon-rufous, the sides of head also usually more tinged with this color; length (skins), 84–93 (87); wing, 43–46.5 (44); tail, 29–33 (30.9); exposed culmen, 10–11 (10.3); tarsus, 15–16.5 (15.2); middle toe, 7.5–8.5 (7.8).[c]

Young.—Similar to adults, but pileum plain brownish, feathers of crest much shorter and throat much less distinctly streaked.

Costa Rica (Grecia; Cervantes; Dota; Quebrada Honda; Naranjo; Turrialba; Tucurrique; Carrillo; Bonilla; Juan Viñas; San Carlos; Cariblanco de Sarapiqué) and Panama (Calobre; Chitra; Boquete; Calovevora; Volcan de Chiriqui).

Euscarthmus squamicristatus (not *Todirostrum squamæcrista* Lafresnaye) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 111 (Cervantes, Grecia, and Dota, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Quebrada Honda, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 196 (Calobre, Chitra and Boquete de Chitra, Panama).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 62 (Naranjo, Costa Rica).

[a] Younger birds are more narrowly and less distinctly streaked.

[b] Ten specimens from Costa Rica.

[c] Seven specimens.

Average measurements of specimens of this species from separate geographic areas are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Peru (Inca Mine)	50.2	38.7	11	16	8
Two supposed adult males from Colombia (Bogota)	54	42	10.5	16	8.5
One adult male from Panama (Boquete)	50.5	38	10.5	16	8
Ten adult males from Costa Rica	49.3	35.9	10	15.4	7.8
FEMALES.					
One supposed adult female from Bogota	47.5	35		15	8
Three adult females from Panama	46.6	33.8	10.5	14.6	7.6
Seven adult females from Costa Rica	44	30.9	10.3	15.2	7.8

As might be supposed, Panama examples are intermediate between Costa Rican and Colombian specimens.

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[*Euscarthmus*] *squamicristatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145, part (Costa Rica).

Lophotriccus squamicristatus SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 87, part (Dota, Turrialba, and Tucurrique, Costa Rica; Chitra, Calovevora, and Chiriqui, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 16, part.

Lophotriccus squamicristatus minor CHERRIE, Proc. U. S. Nat. Mus., xiv, no. 855, Sept. 4, 1891, 337 (Grecia, Costa Rica; coll. U. S. Nat. Mus.).

[*Lophotriccus*] *minor* SHARPE, Hand-list, iii, 1901, 107.

Lophotriccus minor BANGS, Proc. New Eng. Zool. Club, iii, 1902, 35 (Boquete, Panama, 4,500–4,800 ft.).

Lophotriccus zeledoni CHERRIE, Proc. U. S. Nat. Mus., xiv, no. 855, Sept. 4, 1891, 337 (Dota, Costa Rica; coll. U. S. Nat. Mus.; = adult female).

[*Lophotriccus*] *zeledoni* SHARPE, Hand-list, iii, 1901, 108.

Genus ATALOTRICCUS Ridgway.

Atalotriccus[a] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 208. (Type, *Colopterus pilaris* Cabanis.)

Very small Tyrannidæ (wing about 40–43 mm.) similar to *Colopteryx*[b] in reduction of outermost primaries, but differing in absence of crest, in having four instead of three primaries reduced in size, the reduction excessive and the shape of these reduced primaries very different, being narrow and acuminate instead of normal.

Bill more than half as long as head, depressed, rather narrow, subspatulate, its width at nostrils equal to about half the distance from nostril to tip of maxilla and decidedly but not conspicuously greater than its depth at same point; exposed culmen more than half as long as tarsus, about one-fourth as long as wing, sharply ridged, nearly straight or very faintly convex to near tip, where slightly decurved, the tip of maxilla very minutely uncinate; gonys longer than mandibular rami, very faintly convex; maxillary tomium nearly straight, minutely notched subterminally; lateral outlines of bill straight and nearly parallel for more than basal half, then decidedly convex and rapidly convergent to the tip of maxilla. Nostril exposed, rather large, longitudinally oval or broadly elliptical, overhung by broad membrane. Rictal bristles well developed, reaching more than halfway to tip of bill; feathers of chin and frontal antiæ with conspicuous bristly tips, those of the latter extending across and much beyond nostrils. Wing short and excessively rounded, with four outermost primaries excessively reduced in size, decreasing in size from the tenth (outermost) to the seventh, very narrow, with subacuminate and slightly curved tip; the longest of these (outermost) in adult male only half as long as longest primary; third and fourth primaries longest, second slightly shorter, first and fifth equal, the sixth much shorter than secondaries. Tail nearly as long as wing, distinctly rounded, the rectrices rather narrow. Tarsus long

[a] *Ἁταλος*, tender, delicate; *τριϰϰος*, a small bird.

[b] See footnote on p. 342.

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and slender (two-fifths as long as wing), with transverse divisions of acrotarsium obvious but not distinct; middle toe, without claw, about half as long as tarsus, its basal phalanx wholly united to outer toe, more than half united to inner toe; outer toe, without claw, reaching decidedly beyond, the inner about to, middle of subterminal phalanx of middle toe; hallux about as long as inner toe but decidedly stouter, its claw shorter than digit; all the claws moderately curved, sharp, compressed.

Coloration.—Above plain olive-green, the wings and tail dusky with olive-green edgings, wing-coverts tipped with olive-yellowish and tertials edged with same; beneath grayish white tinged with pale yellow.

Nidification.—Nest "loosely constructed of dry grasses, leaves, and rushes, with an entrance hole near the middle," "hanging four feet above the surface of a pool of water, in deep woods along the river." Eggs white with reddish brown spots.[a]

Range.—Panama to Colombia. (Monotypic.)

KEY TO THE SUBSPECIES OF ATALOTRICCUS PILARIS.

a. Smaller (male averaging wing 41.5, tail 38.8); coloration lighter and brighter, with pileum not darker than back. (Colombia; Panama.)

Atalotriccus pilaris pilaris (p. 374)

aa. Larger (adult male with wing 43.5, tail 39.5); coloration darker and duller, with pileum decidedly darker and duller than back. (Venezuela.)

Atalotriccus pilaris venezuelensis (extralimital) *b*

ATALOTRICCUS PILARIS PILARIS (Cabanis).

PYGMY FLYCATCHER.

Adult male.—Above plain grayish olive-green, varying to somewhat buffy olive-green, the pileum sometimes very slightly duller; wings and tail dusky with olive-green edgings, these broader and clear sulphur yellow on inner secondaries, the middle and greater wing-coverts tipped with sulphur yellow, forming two distinct though rather narrow bands; sides of head (below eyes) and thence to and including sides of breast light brownish gray; under parts dull white, passing into sulphur yellow on flanks and under tail-coverts, the axillars and under wing-coverts also sulphur yellow; chin and upper throat narrowly and indistinctly streaked with brownish gray, and chest faintly tinged with the same; bill dusky horn color or brownish black, paler basally and on tomia, the lower basal portion of mandible whitish

[a] Berlepsch and Hartert, Novit. Zool., ix, 1902, 39.

[b] *Atalotriccus pilaris venezuelensis* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 115 (San Antonio, Bermudez, Venezuela; coll. Am. Mus. N. H.).—*Colopterus pilaris* (not *Colopterus pilaris* Cabanis) Sclater and Salvin, Proc. Zool. Soc. Lond., 1869, 252 (Venezuela).—*Colopteryx pilaris* Berlepsch and Hartert, Novit. Zool., ix, 1902, 39 (Maipuras, Ciudad Bolivar, Altagracia, Caicara, etc., Venezuela; descr. nest and eggs).

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(in dried skins); iris light grayish yellow;[a] legs and feet light or pale brownish (in dried skins); four outer primaries minute, narrow, subfalcate, the ninth and tenth longer and larger than eighth and seventh; length (skins), 89–97 (92); wing, 40–42.5 (41.5); tail, 36–43.5 (38.8); exposed culmen, 9.5–11 (10.2); tarsus, 15–17.5 (16.4); middle toe, 6.5–8 (7.3).[b]

Adult female.—Similar in coloration to adult male, but four outer primaries much larger, the tenth smallest, the ninth, eighth, and seventh successively larger, but the last much shorter than sixth; length (skins), 76.5–86 (83); wing, 38–42.5 (40.3); tail, 26–34.5 (30.5); exposed culmen, 10–11.5 (10.6); tarsus, 14.5–16 (15.5); middle toe, 6.5–7.5 (7.1).[c]

Young.—Similar to adults, but pileum more buffy olive, wing-bands duller yellow, and anterior under parts more or less suffused with pale brownish buff, the chin and upper throat without streaks.

Northern and central Colombia (Cartagena; Bogota; Santa Marta, Minca, Bonda, and Cacagualita, Province of Santa Marta) and Panama (Panama City; Natá-Coclé; Santa Fé de Veragua; David).

Colopterus pilaris CABANIS, Weigman's Archiv. für Naturg., xiii, pt. i, 1847, 253, pl. 5, fig. 4 (Cartagena, Colombia; coll. Berlin Mus.; ex *Todus pilaris* Lichtenstein, manuscript).—SCLATER, Cat. Am. Birds, 1862, 210 ("New Granada"); Cat. Birds Brit. Mus., xiv, 1888, 90 (Santa Fé, Veragua; Santa Marta, Minca, and Bogota, Colombia).—SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé, Veragua).—SALVIN and GODMAN, Ibis, 1880, 124 (Minca, Colombia, 2,000 ft.); Biol. Centr.-Am., Aves, ii, 1888, 18.—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 136 (Santa Marta, Colombia).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 150 (Bonda, etc., Santa Marta).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 217 (Sabana de Panama).

[a] Heyde, manuscript.

[b] Nine specimens.

[c] Eleven specimens.

Panama and Colombian specimens compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Colombia	41.8	39.1	10.4	16.7	7.2
Three adult males from Panama	40.8	38	9.8	15.8	7.3
One adult male (*A. p. venezuelensis*) from Venezuela	43.5	39.5	10	15.5	7.5
FEMALES.					
Ten adult females from Colombia	40.3	31.5	10.7	15.6	7.1
One adult female from Panama	40	30	10	14.5	7
One adult female (*A. p. venezuelensis*) from Venezuela	42.5	33.5	10	16.5	7.5

Besides averaging smaller than Colombian examples those from Panama seem to be slightly lighter in coloration and with the sulphur yellow of posterior under parts less strong; but the series from Panama is too small to allow of satisfactory comparison.

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[*Colopterus*] *pilaris* BONAPARTE, Consp. Av., i, 1850, 184 (Colombia).—SCLATER and SALVIN, Nom. Av., Neotr., 1873, 46.

C[*olopterus*] *pilaris* CABANIS and HEINE, Mus. Hein, ii, 1859, 52 (Cartagena).

[*Todirostrum*] *pilaris* GRAY, Hand-list, i, 1869, 349, no. 5284.

C[*olopteryx*] *pilaris* RIDGWAY, Proc. U. S. Nat. Mus., x, Aug. 6, 1888, 520, in text.

[*Colopteryx*] *pilaris* SHARPE, Hand-list, iii, 1901, 108.

E[*uscarthmus*] *pilaris* GRAY, Gen. Birds, iii, 1849, App., p. 30*b*.

Atalotriccus pilaris RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 208.

Todirostrum exile SCLATER, Proc. Zool. Soc. Lond., 1857, 83, pl. 125, fig. 3 (Colombia; coll. P. L. Sclater).—CASSIN, Proc. Ac. Nat. Sci. Philad., 1860, 144 (Colombia).

Todirostrum megacephalum (not *Todus megacephalus* Swainson) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 330 (Panama R. R.).

Genus PERISSOTRICCUS Oberholser.

Perissotriccus[a] OBERHOLSER, Proc. U. S. Nat. Mus., xxv, no. 1276, Aug. 30, 1902, 64. (Type, *Todirostrum ecaudatum* D'Orbigny and Lafresnaye.)

Extremely small Tyrannidæ (wing about 30–35 mm.) with very short tail (less than half as long as wing), rather narrow, long bill (its width at nostrils less than half as long as exposed culmen, the latter about as long as middle toe with claw), coloration olive-green above, passing into gray or black on pileum, under parts white, passing into pale yellow posteriorly.

Bill nearly as long as head, narrowly triangular in vertical profile, its width at nostrils less than half the length of exposed culmen, much greater than its depth at same point, the lateral outlines converging rather suddenly from about one-third the distance from tip; exposed culmen about as long as middle toe with claw, distinctly ridged, straight for basal half, at first very faintly then more strongly curved to the minutely uncinate tip of maxilla; gonys longer than mandibular rami, faintly convex; maxillary tomium straight, distinctly notched subterminally. Nostril exposed, small, longitudinally broadly oval, in anterior end of nasal fossæ. Rictal bristles well developed (at least half as long as bill), the feathers of chin and frontal antiæ with conspicuous long bristle-like tips. Wing short and rounded, the longest primaries exceeding secondaries by about length of middle toe without claw; sixth, seventh, and eighth primaries longest, ninth but little shorter, the tenth (outermost) intermediate between fourth and fifth or equal to the latter. Tail much less than half as long as wing, but decidedly longer than tarsus, slightly double-rounded or emarginate, the rectrices relatively narrow. Tarsus much more than one-third as long as wing (nearly as long as tail), its scutellation typically exaspidean, with the two edges of the acrotarsium in close contact on inner posterior side of tarsus, the acrosartial segments indistinct; middle toe, without claw, about half as long as tarsus, its basal phalanx

[a] *Περισσός*, wonderful; *τρίκκος*, a small bird.

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wholly united to outer toe, united to inner toe for very nearly its entire length; outer toe, without claw, reaching to much beyond middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux about as long as inner toe, not conspicuously stouter, its claw shorter than digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Above plain olive-green, the pileum gray or blackish, the wings and tail dusky with olive-green edgings (more yellowish on secondaries and greater wing-coverts); beneath whitish, passing into pale yellow posteriorly.

Range.—Costa Rica to Peru, Bolivia, and Venezuela. (Two species.)

KEY TO THE SPECIES OF PERISSOTRICCUS.

a. Pileum ash gray. (Venezuela to Peru and Bolivia.)
Perissotriccus ecaudatus (extralimital) [a]

aa. Pileum black or dusky slate color. (Costa Rica.). . **Perissotriccus atricapillus** (p. 377)

PERISSOTRICCUS ATRICAPILLUS (Lawrence).

BLACK-CAPPED PYGMY FLYCATCHER.

Adult male.—Pileum plain black, duller or more slaty posteriorly; hindneck, sides of neck, auricular region, and suborbital region plain slate-gray; back, scapulars, rump, upper tail-coverts, and lesser wing-coverts bright olive-green; wings and tail slate-black or blackish slate with yellowish olive-green edgings, these broader and clear sulphur yellow on inner secondaries; greater wing-coverts broadly edged with yellowish olive-green or olive-yellow, and middle coverts broadly but not sharply tipped with yellowish olive-green; a white supraloral line extending from nostril to upper eyelid; a white orbital ring interrupted on middle of upper eyelid and at anterior angle of eye; a black loral spot or streak; chin, throat, and median portion of chest and breast white, passing into pale ash gray on sides of the two latter; posterior under parts, together with axillars and under wing-coverts, sulphur yellow; bill black; legs and feet pale brownish (in dried skins); length (skins), 59–66 (63); wing, 35–37.5 (36.1); tail, 14.5–16 (15.1); exposed culmen, 10–10.5 (10.2); tarsus, 13–13.5 (13.1); middle toe, 7–7.5 (7.1).[b]

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[a] *T[odirostrum] ecaudatum* D'Orbigny and Lafresnaye, Mag. de Zool., ann. 7, 1837 (Synopsis Avium, 47; "cl. ii, pl. 77à 79") (Yuracares, Bolivia); D'Orbigny, Voy. Amèr. Mérid., Ois., 316, pl. 33, figs. 1, 2.—[*Todirostrum*] *ecaudatus* Gray, Hand-list, i, 1869, 349, no. 5283.—*Orchilus ecaudatus* Pelzeln, Orn. Bras., ii Abth., 1869, 102; Sclater Cat. Birds Brit. Mus., xiv, 1888, 89.—*Perissotriccus ecaudatus* Oberholser, Proc. U. S. Nat. Mus., xxv, no. 1276, Aug. 30, 1902, 64; Ihering, Revista Mus. Paul., vi, 1904, 433 (Rio Juruá, s. Brazil).

I have not been able to examine a specimen of this species.

[b] Four specimens.

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Adult female.—Similar to the adult male, but pileum dusky slate color, sometimes black or nearly so on forehead; length (one skin), 68.5; wing, 33.5; tail, 14.5–15.5 (15); exposed culmen, 10–10.5 (10.2); tarsus, 13; middle toe, 7.[a]

Eastern Costa Rica (Talamanca; Angostura; Jiménez); northwestern Ecuador (San Javier)?[b]

Todirostrum ecaudatum (not of D'Orbigny and Lafresnaye) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 110 (Angostura, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).

[*Orchilus*] *ecaudatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45, part (Costa Rica).

Orchilus atricapillus LAWRENCE, Ibis, July, 1875, 385 ("Volcan de Irazú," i. e., Talamanca, Costa Rica; coll. U. S. Nat. Mus.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 89.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 17.—HARTERT, Novit. Zool., ix, 1902, 607 (San Javier, n. w. Ecuador; crit.; descr.).

[*Orchilus*] *atricapillus* SHARPE, Hand-list, iii, 1901, 108.

Perissotriccus atricapillus OBERHOLSER, Proc. U. S. Nat. Mus., xxv, no. 1276, Aug. 30, 1902, 64.

Genus PLACOSTOMUS Ridgway.

Placostomus[c] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 208. (Type, *Platyrhynchus superciliaris* Lawrence.)

Similar to *Platytriccus*, but feathers of chin and frontal antiæ with conspicuous bristly tips; tarsi and toes much more slender, the basal phalanx of middle toe wholly united to inner (as well as outer) toe; outermost (tenth) primary relatively much longer (longer than fifth instead of not longer than second), and tail relatively much smaller (only about two-fifths, instead of about half, as long as wing).

Bill very broad and flat, its width at nostrils equal to distance from nostril to tip of maxilla, its lateral outlines slightly convex, especially subterminally; exposed culmen about half as long as head, straight to near tip where rather abruptly decurved, the tip of maxilla minutely uncinate; gonys straight, about as long as mandibular rami. Nostril exposed, ovoid, in anterior end of nasal fossæ, with rather broad superior membrane. Rictal bristles greatly developed, reaching nearly to end of bill; feathers of chin and frontal antiæ with conspicuous bristly points, those of the latter extending far beyond nostrils. Wing rather long, with longest primaries exceeding secondaries by length of exposed culmen, or slightly more; eighth and ninth primaries longest, tenth (outermost) intermediate between fifth and sixth. Tail very small, only about two-fifths as long as wing, slightly rounded, the rectrices relatively narrow. Tarsus slender, about as

[a] Two specimens.

[b] According to Hartert, as cited below.

[c] πλάξ, a broad surface; στόμα, mouth.

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long as commissure and slightly more than one-fourth as long as wing, the acrotarsium fused ("booted"); middle toe, without claw, a little more than half as long as tarsus, its basal phalanx wholly united to both outer and inner toes; outer toe, without claw, reaching about to terminal joint of middle toe, the inner toe decidedly shorter, reaching to a little beyond middle of subterminal phalanx of middle toe; hallux about as long as inner toe, or slightly shorter, not conspicuously stouter, its claw much shorter than the digit; all the claws moderately curved and sharp, much compressed.

Coloration.—Above plain olive, the pileum rufescent, bordered with black and with a central patch of yellow in adult males; sides of head and under parts pale yellow or olive-yellow, the former with a black patch below eye.

Range.—Costa Rica to Guiana and Ecuador. (Two species.)

KEY TO THE SPECIES OF PLACOSTOMUS.

a. Under parts light yellow (nearly naples yellow), tinged with olive on chest and sides. (Northern Colombia to Costa Rica.) ..... **Placostomus superciliaris** (p. 379)

aa. Under parts dull cream-buff, tinged with brown on chest and sides. (Ecuador and northern Bolivia.) ..... **Placostomus coronatus** (extralimital) [a]

PLACOSTOMUS SUPERCILIARIS (Lawrence).

LAWRENCE'S SPADE-BILLED FLYCATCHER.

Adult male.—Pileum margined laterally by a narrow line of black, the median portion lemon yellow (largely concealed), the lateral portions russet or dull cinnamon-rufous, passing gradually into dull brown next to the black line on each side; hindneck, back, scapulars, rump, upper tail-coverts and lesser wing-coverts, plain olive; wings (except lesser coverts) and tail dusky with light brown (broccoli or hair brown) edgings; a narrow superciliary stripe of pale naples or primrose yellow; a black patch on upper posterior portion of auricular region and another beneath eye, the space between olive-yellowish; under parts light yellow (nearly naples yellow), the chest, sides, and flanks strongly tinged with olive; maxilla black, mandible whitish (in dried skins); legs and feet pale horn color (in dried skins); length (skins), 70–85 (80); wing, 50.5–58.5 (54.9); tail, 19.5–25 (22.9); exposed culmen, 11–12.5 (11.3); tarsus, 13–14.5 (13.6); middle toe, 7.5–8.5 (8.1).[b]

Adult female.—Similar to the adult male, but crown-patch wholly cinnamon-rufous or orange-rufous or with only a trace of yellow in central portion; length (skins), 71.5–84 (77); wing, 50.5–55 (52.7);

[a] *Platyrhynchus coronatus* Sclater, Proc. Zool. Soc. Lond., 1858, 71 (Rio Napo, e. Ecuador; coll. P. L. Sclater); Cat. Am. Birds, 1862, 207, pl. 17; Cat. Birds Brit. Mus., xiv, 1888, 68; Allen, Bull. Am. Mus. N. H., ii, 1889, 85 (Falls of Madeira, n. Bolivia).—*Placostomus coronatus* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 208.

[b] Fifteen specimens.

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tail, 20–23 (21.1); exposed culmen, 10.5–11.5 (11.1); tarsus, 13–13.5 (13.2); middle toe, 7.5–8 (7.9).[a]

Costa Rica (Valza; Rio Naranjo; Pozo Azul de Pirris; Pozo del Pital; Las Trojas; La Concepcion; Carrillo) and Panama (Panama City; Lion Hill; Lomo Lleno; Rio Truando; Santa Fé de Veragua; Bugaba; Divala; Volcan de Chiriqui); British Guiana (Bartica Grove; Albina River)?[a] Cayenne (Oyapoc).[b]

Platyrhynchus cancroma (not of Temminck) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 330 (Lion Hill Station, Panama).

Platyrhynchus superciliaris LAWRENCE, Ibis, April, 1863, 184 (Lion Hill, Panama R. R.; coll. G. N. Lawrence); Ann. Lyc. N. Y., viii, 1863, 7 (Lion Hill); ix, 1868, 110 (Valza, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 146 (Volcan de Chiriqui and Santa Fé, de Veragua); 1870, 196 (Bugaba, Panama); Ibis, 1885, 292 (Bartica Grove, British Guiana; crit.).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 68 (Santa Fé, Volcan de Chiriqui, and Bugaba, Panama; Bartica Grove and Albina R., British Guiana; Oyapoc, Cayenne).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 6.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 34 (Volcan de Chiriqui, Panama, 2,000 ft.).

[*Platyrhynchus*] *superciliaris* GRAY, Hand-list, i, 1869, 347, no. 5242.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45.—SHARPE, Hand-list, iii, 1901, 101.

Placostomus superciliaris RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 208.

Genus PLATYTRICCUS Ridgway.

Platytriccus[c] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Oct. 17, 1905, 211. (Type *Platyrhynchus cancrominus* Sclater and Salvin.)

Very small Tyrannidæ (length not more than 90 mm., wing about 53–62 mm.) with the bill excessively broad and flat (its width at base about equal to length of exposed culmen), and tail less than half as long as wing.

[a] Nine specimens.

Specimens from Costa Rica average slightly larger than those from Panama, but I am not able to discern any difference in coloration.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Panama	53.7	22.3	11.5	13.5	8.2
Ten adult males from Costa Rica	55.5	23.1	11.1	13.7	8.1
FEMALES.					
One adult female from Panama	50.5	20.5	11	13	8
Eight adult females from Costa Rica	52.7	21.1	11.1	13.2	7.9

[b] According to Sclater; but it is possible specimens from these localities may be subspecifically separable.

[c] πλατύς, flat, wide, broad, and τρίκκος, a small bird.

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Bill excessively broad and flat, its width at base about equal to length of exposed culmen, its width at nostrils greater than distance from nostril to tip of maxilla; exposed culmen about half as long as head, rather distinctly ridged, nearly straight for most of its length, gradually but decidedly decurved terminally, the tip of maxilla rather minutely uncinate; gonys about as long as mandibular rami, faintly convex or nearly straight; lateral outlines of bill more or less strongly convex, the extreme tip of both maxilla and mandible, however, more or less distinctly constricted. Nostril exposed, broadly oval or roundish, in anterior end of nasal fossæ, overhung by rather broad membrane. Rictal bristles greatly developed but slender, reaching nearly to tip of bill; latero-frontal feathers and feathers of chin without bristly tips. Wing moderate, much rounded, the sixth, seventh, and eighth primaries longest and about equal, ninth intermediate between fifth and sixth, the tenth (outermost) not longer than second, sometimes shorter than first; longest primaries exceeding secondaries by less than length of exposed culmen. Tail nearly half to a little more than half as long as wing, slightly rounded. Tarsus longer than commissure, the acrotarsium fused or "booted"; middle toe, with claw, much shorter than tarsus, its basal phalanx completely united to outer toe, united for greater part of its length to inner toe; outer toe (without claw) reaching nearly if not quite to terminal joint of middle toe, the inner toe much shorter, reaching (without claw) only to middle of subterminal phalanx of middle toe; hallux about as long as inner toe but much stouter, its claw nearly if not quite as long as the digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Plain brown or olive above, the crown with or without a concealed patch of white, yellow, or red; beneath pale olive or olive-yellowish, more brown on chest, the throat sometimes white.

Range.—Southern Mexico to western Ecuador, Paraguay, and Argentina. (About ten species, including subspecies.)

This genus is quite distinct from *Platyrinchus* Desmarest[a] which differs in having the tail relatively much longer (much more than half as long as wing), the wing-tip much longer (longest primaries exceeding distal secondaries by more than length of tarsus or nearly half the length of tail), longer tenth (outermost) primary which equals the fifth instead of being not longer than the third and usually shorter than first, very much shorter tarsus (little more than one-fifth, instead of nearly to quite one-third, as long as wing, but little longer than middle toe with claw, and less than half as long again instead of nearly to quite twice as long as exposed culmen), and presence of bristly tips to feathers of the chin.

[a] *Platyrinchus* Desmarest, Hist. Nat. des Tangaras, etc., livr. 4, 1805, text to pl. 72 (Type, *P. ornatus* Desmarest = *Todus platyrhynchos* Gmelin.)

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KEY TO THE SPECIES OF PLATYTRICCUS.

a. General color of upper parts decidedly brown; wing without distinct bands.
b. Under parts of body paler, less tawny, the throat whiter.
c. Bill smaller and relatively narrower (width at base less than 10 mm.).
d. Paler, especially the pileum and under parts; adult male with only a small patch of yellow on crown, often with none. (Southern Mexico to western Costa Rica.).....**Platytriccus cancrominus** (p. 382)
dd. Darker, especially pileum and under parts; adult male always(?) with a large patch of yellow on crown. (Costa Rica and Panama.)
Platytriccus albogularis (p. 384)
cc. Bill larger and relatively broader (width at base 10 mm.). (Islands of Tobago and Trinidad; Venezuela?).....**Platytriccus insularis** (extralimital)[a]
bb. Under parts of body darker and more tawny, the throat more yellowish or buffy. (Guiana to southern Brazil and Paraguay.)
Platytriccus mystaceus (extralimital)[b]
aa. General color of upper parts decidedly olive; wing with two distinct bands. (Southwestern Brazil.).....**Platytriccus bifasciatus** (extralimital)[c]

PLATYTRICCUS CANCROMINUS (Sclater and Salvin).

MEXICAN SPADE-BILLED FLYCATCHER.

Adult male.—Pileum and hindneck plain dusky olive or dull grayish olive, sometimes (always in perfectly adult birds?) with a small central concealed patch of yellow; back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain brownish olive or olive-brown, the wings and tail similar but somewhat browner, inclining to russet on edges of secondaries and tips of middle and greater wing-coverts; a dull white or brownish white orbital ring, confluent with a supra-loral streak and a postocular (supra-auricular) streak of the same, the latter sometimes obsolete; a dusky loral spot immediately in front of eye; malar and auricular regions dusky olive inclosing a rather indistinct spot of pale buffy olive-whitish; chin and throat white, usually slightly tinged with pale brownish buff; underparts of body pale buffy yellowish medially passing into buffy olive-brown laterally, this color deepest on sides of chest; maxilla black, mandible light colored; legs and feet pale brownish (in dried skins); length (skins), 86–99 (92); wing, 56–60.5 (58.2); tail, 27.5–31 (29.4); exposed culmen, 10–10.5 (10.3); tarsus, 16–17.5 (16.9); middle toe, 8–10 (9.4).[d]

[a] *Platyrhynchus insularis* Allen, Bull. Am. Mus. N. H., ii, June 28, 1889, 143 (Tobago; coll. U. S. Nat. Mus.).—*P[latyrhynchus] mystaceus insularis* Allen, Bull. Am. Mus. N. H., ii, June, 1889, 143.—*Platyrhynchus mystaceus insularis* Chapman, Bull. Am. Mus. Nat. Hist., vi, 1894, 37 (Trinidad; habits; notes); (?) Robinson, Proc. U. S. Nat. Mus., xviii, 1896, 684 (La Guaira, Venezuela).—*Platytriccus insularis* Ridgway, Proc. Biol. Soc. Wash., xviii, Oct. 17, 1905, 211.

[b] *Platyrhynchos mystaceus* Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 14 (Paraguay).—*Platyrhynchus mystaceus* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 67, part.—*Platyrhynchus cancroma* Temminck, Pl. Col., livr. 2, Sept., 1820, pl. 12, fig. 2, and text (Brazil).

[c] *Platyrhynchus bifasciatus* Allen, Bull. Am. Mus. N. H., ii, June 28, 1889, 141 (Chapada, Mattogrosso, s. w. Brazil; coll. Am. Mus. N. H.).

[d] Nine specimens.

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Immature male.—Similar to the adult male but without trace of yellow on crown.

Adult female.—Apparently exactly like the immature male (and some adult males?); length (skins), 78–87 (83); wing, 51–54 (52.5); tail, 22–26 (23.6); exposed culmen, 9–10.5 (10.1); tarsus, 14–16 (15.3); middle toe, 8–10 (9).[a]

Southern Mexico, in States of Vera Cruz (Cordova; Playa Vicente; Büena Vista), Tabasco (Teapa), Yucatan (La Vega), and Chiapas, and southward through Guatemala (Choctum; Teleman; El Paraiso; Volcan de Agua) and Honduras (Rio Blanco; San Pedro Sula; La Bomba; Santa Ana) to western Nicaragua (Sucuyá) and western Costa Rica (Volcan de Miravalles; Bebedero; Pozo Azul de Pirris).

Platyrhynchus cancroma (not of Temminck, 1820) SCLATER, Proc. Zool. Soc. Lond., 1856, 295 (Cordova, Vera Cruz); 1859, 384 (Playa Vicente, Vera Cruz); Ibis, 1859, 445 (Cordova; crit.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (tierra caliente of Vera Cruz).

Platyrhynchus cancrominus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1860, 299 (Choctum, Vera Paz, Guatemala; coll. Salvin and Godman).—SALVIN and SCLATER, Ibis, 1860, 399 (Choctum).—SCLATER, Cat. Am. Birds, 1862, 207 (Choctum); Cat. Birds Brit. Mus., xiv, 1888, 66 (Volcan de Agua, El Paraiso, Choctum, and Teleman, Guatemala).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 384 (Sucuyá, Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 5.—UNDERWOOD, Ibis, 1896, 437 (Volcan de Miravalles, Costa Rica).

[*Platyrhynchus*] *cancrominus* GRAY, Hand-list, i, 1869, 347, no. 5240.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 45.—SHARPE, Hand-list, iii, 1901, 100.

P[*latyrhynchus*] *mystaceus cancrominus* ALLEN, Bull. Am. Mus. N. H., ii, no. 3, June, 1889, 143.

[a] Seven specimens.

Specimens from separate geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Vera Cruz (2) and Tabasco (1)	58.3	30.5	10.5	16.8	9.2
One adult male from Yucatan	57	30.5	10.5	16.5	9
One adult male from Chiapas	60.5	30.5	10	16	9
One adult male from Honduras (Rio Blanco)	57	29	10.5	17.5	9
Four adult males from western Nicaragua (1) and Costa Rica (3)	57.5	28.5	10.1	17	9.5
FEMALES.					
Three adult females from Vera Cruz (2) and Tabasco (1)	53	24.3	10.2	15.5	8.6
One adult female from Chiapas	54	24.5	9	16	10
Two adult females from Honduras (Rio Blanco and Santa Ana)	51	22.7	10.2	14.7	9.5
One adult female from western Costa Rica	52.5	22.5	10.5	15	8

The specimens from Tabasco are rather darker than others. That from Yucatan (La Vega) is paler, though scarcely more so than an example from Pozo Azul, Costa Rica.

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PLATYTRICCUS ALBOGULARIS (Sclater).

WHITE-THROATED SPADE-BILLED FLYCATCHER.

Similar to *P. cancrominus*, but decidedly darker in color, the adult male always (?) with a large patch of bright yellow on median portion of crown and occiput.[a]

Adult male.—Pileum dark olive with a large central patch of lemon yellow, originating at center of crown and extending over median portion of occiput; hindneck, back, scapulars, rump, upper tail-coverts and lesser wing-coverts plain brownish olive; wings (except lesser coverts) and tail dusky with brownish olive or olive-brown edgings, the middle coverts broadly tipped with the same color; sides of head dusky or dusky olive, relieved by a pale brownish buff or buffy whitish supraloral streak and orbital ring and a spot of light buffy brown or brownish buff near center of auricular region; chin and throat white; chest, sides, and flanks buffy brownish, fading into pale yellow (nearly straw yellow) on abdomen, median portion of breast, and under tail-coverts; axillars and under wing-coverts pale yellowish tinged with olive or grayish, the under primary coverts brownish; inner web of remiges edged with pale brownish buff or brownish white; bill blackish, the mandible with paler tomia and tip; iris brown;[b] legs and feet light brownish or horn color (in dried skins); length (skins), 89–98 (92.8); wing, 55–63 (59.6); tail, 25–34.5 (30.9); exposed culmen, 10.5–11.5 (11.2); tarsus, 17–19.5 (17.9); middle toe, 9–10 (9.6).[c]

Adult female.—Similar to the adult male, but yellow crown-patch much smaller, often (usually?) wanting; length (skins), 82–96 (89); wing, 50–61 (56.6); tail, 24–34.5 (27.2); exposed culmen, 10.5–11.5 (11); tarsus, 15.5–17 (16.5); middle toe, 9–9.5 (9.2).[d]

[a] I find on careful comparison of a considerable series of each form that the throat is little, if any, whiter in *P. albogularis* than in *P. cancrominus;* neither does it, as a rule, contrast more strongly with the general color of the under parts.

[b] W. W. Brown, manuscript.

[c] Twelve specimens.

[d] Five specimens.

Costa Rican, Panama, and Colombian specimens compare in measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Costa Rica	59.2	30	10.9	17.4	9.4
Seven adult males from Panama	59.9	31.6	11.5	18.5	9.9
FEMALES.					
Three adult females from Costa Rica	52.3	25.2	10.7	16.6	9.2
One adult female from Panama	55	26	11	15.5	9
One adult female from Colombia (Concepcion, Santa Marta)	61	34.5	11.5	17	9.5

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Young.—Similar to the adult female, but no trace of yellow on pileum, and tips of middle and greater wing-coverts and edges of secondaries more rusty brown (russet).

Costa Rica (Navarro; Naranjo; Irazú; Cartago; Estrella de Cartago; Azajar de Cartago; Cariblanco de Sarapiqué; Pozo Azul de Pirris), Panama (Rio Truando; Boquete; Volcan de Chiriqui; Calobre; Calovevora; Chitra), Colombia (Concepcion, Santa Marta), Venezuela (San Esteban), western Ecuador (Pallatanga; Esmeraldas; Nanegal; Santa Rita; Paramba; Mapoto; Machay; Foreste del Rio Peripa), and northwestern Peru (Tambillo).[a]

Platyrhynchus albogularis SCLATER, Proc. Zool. Soc. Lond., 1860, 68 (Pallatanga, w. Ecuador; coll. P. L. Sclater), 92 (Nanegal, w. Ecuador); Cat. Am. Birds, 1862, 207; Cat. Birds Brit. Mus., xiv, 1888, 67, pl. 8, fig. 2 (Pallatanga, Nanegal, and Santa Rita, w. Ecuador; San Esteban, Venezuela; Calovevora, Calobre, and Volcan de Chiriqui, Panama; Naranjo and Irazú, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 196 (Calovevora, Chitra, and Calobre, Panama; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 6 (Navarro, etc., Costa Rica; Rio Truando, etc., Panama; Venezuela; Ecuador; Peru).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 4 (Foreste del Rio Peripa, w. Ecuador).—BANGS, Proc. Biol. Soc. Wash., xiii, 1899, 96 (La Concepcion, Santa Marta, Colombia, 3,000 ft. alt.); Proc. New Engl. Zool. Club, iii, 1902, 34 (Boquete, etc., Panama, 3,000 to 7,500 ft.).—HARTERT, Novit. Zool., ix, 1902, 607 (Paramba, n. w. Ecuador).

[*Platyrhynchus*] *albogularis* GRAY, Hand-list, i, 1869, 347, no. 5239.

P[*latyrhynchus*] *albogularis* SALVIN, Ibis, 1869, 314, in text (Costa Rica).

P[*latyrhynchus*] *mystaceus albogularis* ALLEN, Bull. Am. Mus., ii, June 28, 1889, 143.

[*Platyrhynchus*] *albigularis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 44.—SHARPE, Hand-list, iii, 1901, 101.

Platyrhynchus albigularis SCLATER, Proc. Zool. Soc. Lond., 1860, 295 (Esmeraldas, w. Ecuador).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 62 (Navarro, Costa Rica).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1879, 233 (Tambillo, n. Peru); Orn. du Pérou, ii, 1884, 225.—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 553 (Chimbo, w. Ecuador).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 68 (Chimbo, Mapoto, and Machay, w. Ecuador), 88 (Machay).

Platyrhynchus cancroma (not of Temminck) CASSIN, Proc. Ac. Nat. Sci. Phila., 1860, 144 (Rio Truando, Panama).

Platyrhynchus cancrominus (not of Sclater and Salvin) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 110 (Navarro, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 306 (Navarro).

Genus CRASPEDOPRION Hartert.

Craspedoprion HARTERT, Novit. Zool., ix, Dec. 16, 1902, 609. (Type, *Cyclorhynchus æquinoctialis* Sclater.)

Medium-sized Tyrannidæ (wing about 70–85 mm.), with the bill short and very broad (its width at frontal antiæ equal to or exceeding distance from nostril to tip of maxilla), tarsus not conspicuously

[a] I have not seen specimens from Venezuela, Ecuador, or Peru.

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longer than middle toe with claw, coloration plain olive-green (paler and sometimes streaked below), the adult males with edge of outer web of outermost primary rough (the barbs stiffened and at right angles with shaft).

Bill shorter than head, very broad, its width at frontal antiæ equal to or exceeding distance from nostril to tip of maxilla and at least twice its depth at same point, broadly triangular in vertical profile, with lateral outlines more or less convex subterminally; exposed culmen decidedly, to much, shorter than tarsus, distinctly to obtusely ridged, straight basally, then more and more strongly decurved terminally, the tip of maxilla distinctly uncinate; gonys about as long as mandibular rami, the inter-ramal space broadly rounded anteriorly; maxillary tomium faintly sinuated or nearly straight, distinctly notched subterminally. Nostril rather small, roundish, or subvertically broadly oval, in anterior end of nasal fossæ, with visible membrane behind but not above. Rictal bristles strong and feathers of chin and frontal antiæ with well developed bristly points. Wing moderate, rather pointed, but longest primaries exceeding secondaries by much less than length of tarsus (sometimes by less than length of exposed culmen); seventh and eighth primaries longest, the sixth and ninth but little shorter, the tenth (outermost) about equal to fifth, sometimes slightly exceeding sixth, the barbs of its outer web at right angles with the shaft, stiffened, and with strongly recurved tips.[a] Tail as long as wing from bend to end of secondaries, or slightly shorter, even or very slightly rounded or double-rounded, the rectrices widening terminally. Tarsus rather short and stout (one-fourth as long as wing or a little less), its scutellation typically exaspidean, with divisions of acrotarsium sometimes indistinct on outer side; middle toe with claw decidedly shorter than tarsus, united to outer toe for the whole of its first and a small part of its second phalanx, to inner toe for greater part of its basal phalanx; outer toe, without claw, reaching nearly to terminal joint of middle toe, the inner much shorter, barely extending to middle of subterminal phalanx of middle toe; hallux about as long as inner toe, its claw decidedly shorter than the digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Above plain olive-green; beneath light olive-green, or pale olive, streaked with pale yellowish, anteriorly, the throat sometimes grayish, pale yellow posteriorly; one species with throat and chest fulvous.

Nidification.—(Unknown?)

Range.—Southern Mexico to Ecuador and southeastern Brazil. (Four species.)

[a] The result being that when the finger is drawn along the edge from base to tip the strongly recurved and stiffened barbs resist the movement, exactly as in the Hirundine genus *Stelgidopteryx*.

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KEY TO THE SPECIES AND SUBSPECIES OF CRASPEDOPRION.

a. Chest olive or olive-greenish.
b. Wing-coverts margined with fulvous. (Southeastern Brazil.)
Craspedoprion olivaceus (extralimital)[a]
b. Wing-coverts margined with olive-green or yellowish.
c. Chest paler (light grayish olive); wing-coverts margined with olive-yellowish. (Ecuador to southern Panama.).....**Craspedoprion æquinoctialis** (p. 387)
cc. Chest darker (olive-green); wing-coverts margined with olive-green. (Northern Panama to southern Mexico.) .....**Craspedoprion brevirostris** (p. 388)
aa. Chest brown or fulvous; tail brown. (Ecuador and Colombia.)
Craspedoprion fulvipectus (extralimital)[b]

CRASPEDOPRION ÆQUINOCTIALIS (Sclater).

EQUINOCTIAL FLYCATCHER.

Adult male.—Above plain olive-green; wings (except lesser coverts) dusky with olive-green edgings, these becoming olive-yellow (sometimes somewhat buffy) on middle and greater wing-coverts and inner secondaries; tail grayish brown (hair brown), the rectrices broadly edged on outer webs with olive-green; a whitish orbital ring (more or less distinct); chin, throat, and chest light yellowish olive-green suffused or obsoletely streaked with pale grayish olive; rest of under parts, including axillars and under wing-coverts, light (between sulphur and naples) yellow, the inner webs of remiges edged with cream-yellow; maxilla black, mandible pale colored (brownish white or yellowish in dried skins); iris brown; legs and feet horn color or dusky in dried skins; length (skins), 135–160 (150); wing, 68–76 (72.6); tail, 55.5–65 (61.5); exposed culmen, 14.5–16 (15.1); tarsus, 18–18.5 (18.2); middle toe, 11–12 (11.4).[c]

Adult female.—Similar in color to the adult male, but edge of outermost primary normal (smooth); length (skin), 135; wing, 71; tail, 57.5; exposed culmen, 15.5; tarsus, 17.5; middle toe, 10.5.[d]

Young.—Similar to adults, but upper parts duller olive-green, the upper tail-coverts and tail buffy olive or ochraceous-olive, and yellow of under parts paler, more creamy (between primrose yellow and cream color).

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[a] ***Platyrhynchos olivaceus*** Temminck, Pl. Col., livr. 2, Sept., 1820, pl. 12, fig. 1, and text (Brazil).—*T[odus] olivaceus* Lichtenstein, Verz. Doubl., 1823, 51.—*Cyclorhynchus olivaceus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, i, 248.—*R[hynchocyclus] olivaceus* Cabanis and Heine, Mus. Hein., ii, 1859, 56.—*Rhynchocyclus olivaceus* Sclater, Cat. Am. Birds, 1862, 220; Cat. Birds Brit. Mus., xiv, 1888, 165.—*Platyrhynchus nuchalis* Maximilian, Beitr. Natürg. Bras., iii, pt. ii, 1831, 971 (s. e. Brazil; type now in coll. Am. Mus. N. H.; see Allen, Bull. Am. Mus. N. H., ii, 1889, 233).

I have not seen a specimen of this form.

[b] ***Cyclorhynchus fulvipectus*** Sclater, Proc. Zool. Soc. Lond., 1860, 92 (Nanegal, w. Ecuador; coll. P. L. Sclater).—*Rhynchocyclus fulvipectus* Sclater, Cat. Am. Birds, 1862, 220; Cat. Birds Brit. Mus., xiv, 1888, 167, pl. 13.

This species I have not seen.

[c] Four specimens (one from Panama City, three from Province of Santa Marta, Colombia).

[d] One specimen, from Panama.

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Southern Panama (Panama City; Lion Hill; Nata-Coclé; Chepo; Rio Truando), Colombia (Onaca, Santa Marta), and eastern Ecuador (Rio Napo; Sarayacu).

Cyclorhynchus æquinoctialis SCLATER, Proc. Zool. Soc. Lond., 1858, 70 (Rio Napo, e. Ecuador; coll. P. L. Sclater).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473 (Lion Hill, Panama R. R.).

R[hynchocyclus] æquinoctialis CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 56, foot note (e. Ecuador).

Rhynchocyclus æquinoctialis SCLATER, Cat. Am. Birds, 1862, 220 (Rio Napo); Cat. Birds Brit. Mus., xiv, 1888, 166 (Lion Hill, Chepo, and Panama, Panama R. R.; Sarayacu and Rio Napo, e. Ecuador).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 9.—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 146 (Onaca, Santa Marta, Colombia).

[*Rhynchocyclus*] *æquinoctialis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.

Craspedoprion aequinoctialis HARTERT, Novit. Zool., ix, Dec., 1902, 609.

[*Elainia*] *æquinoctialis* GRAY, Hand-list, i, 1869, 354, no. 5368.

Cyclorhynchus brevirostris (not of Cabanis) CASSIN, Proc. Ac. Nat. Sci. Philad., 1860, 144 (Rio Truando, Colombia.—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 329 (Lion Hill).

CRASPEDOPRION BREVIROSTRIS (Cabanis).

SHORT-BILLED FLYCATCHER.

Similar to *C. æquinoctialis*, but color of throat and chest much deeper olive-green, on the former passing into grayish on chin; orbital ring whiter and apparently broader, and edgings of wing-coverts and inner secondaries olive-green instead of yellowish.

Adult male.—Length (skins), 136–161 (152); wing, 74–84.5 (79.6); tail, 59.5–71.5 (67.3); exposed culmen, 13.5–15.5 (14.3); tarsus, 17.5–19.5 (18.5); middle toe, 10–12 (11.4).[a]

Adult female.—Length (skins), 145–165 (152); wing, 73–78 (75.9); tail, 57–66.5 (62.9); exposed culmen, 14–15 (14.5); tarsus, 18–19 (18.5); middle toe, 10–12 (11).[b]

[a] Nineteen specimens.

[b] Ten specimens.

Measurements of specimens from separate geographic areas are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Vera Cruz and Oaxaca	79.3	67.4	14.1	18.7	11.4
Two adult males from Yucatan	78.2	68	13.2	17.7	10.5
Five adult males from Costa Rica	78.6	65.8	14.2	18.4	11.6
Seven adult males from Panama	80.8	68.1	14.7	18.6	11.4
FEMALES.					
One adult female from Vera Cruz	75	65	14.5	18.5	10.5
Three adult females from Costa Rica	74.8	61.5	14.8	18.3	11.3
Six adult females from Panama	76.7	63.3	14.4	18.5	10.9

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Southern Mexico, in States of Vera Cruz (Jalapa; Cordova; Buena Vista; Santa Lucrecia), Oaxaca (Santa Efigenia), and Yucatan (Puerto Morelos; La Vega); Guatemala (Choctum; Volcan de Fuego; La Trinidad); Costa Rica (Dota; Val; Juan Viñas; Rio Naranjo; Pozo Azul de Pirris; Pozo del Pital; Azahar de Cartago; Irazú), and northern Panama (Boquete; Divala; Calobre; Calovevora; Bogaba; Santa Fé de Veragua; Volcan de Chiriqui).

Cyclorhynchus brevirostris CABANIS, in Wiegmann's Archiv. für Naturg., 1847, i, 249.—BONAPARTE, Consp. Av., i, 1850, 187 (Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz; crit.); Ibis, 1859, 443 (Cordova).—SCLATER and SALVIN, Ibis, 1860, 399 (Choctum, Guatemala).

R[hynchocyclus] brevirostris GRAY, Gen. Birds, iii, 1849, App., 11.—CABANIS and HEINE, Mus. Hein., ii, 1859, 57 (Jalapa, Vera Cruz).

Rhynchocyclus brevirostris SCLATER, Cat. Am. Birds, 1862, 220 (Mexico); Cat. Birds Brit. Mus., xiv, 1888, 166 (Cordova, Vera Cruz; Choctum and Volcan de Fuego, Guatemala; Irazú district, Costa Rica; Santa Fé, Calovevora, Volcan de Chiriqui, and Bugaba, Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (Santa Fé de Veragua; crit.); 1870, 197 (Volcan de Chiriqui, Calovevora, and Bugaba, Panama; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 8.—BANGS Proc. New Engl. Zool. Club, iii, 1902, 35 (Boquete, etc., Panama, 4,000 to 7,500 ft.).

[*Rhynchocyclus*] *brevirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.—SHARPE, Hand-list, iii, 1901, 101.

[*Elainia*] *brevirostris* GRAY, Hand-list, i, 1869, 354, no. 5371.

Rhynchocyclus mesorhynchus CABANIS, Journ. für Orn., Nov., 1865 (published Jan., 1866), 414 (Guatemala; coll. Berlin Mus.).

[*Elainia*] *mesorhyncha* GRAY, Hand-list, i, 1869, 354, no. 5377.

Rhyncocyclus griseimentalis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, 1868 (pub. Mar., 1869), 112 (Dota, Costa Rica; coll. U. S. Nat. Mus.).—SALVIN, Ibis, 1869, 315 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).

Genus RHYNCHOCYCLUS Cabanis and Heine.

Cyclorhynchus (not *Cyclorrhynchus* Kaup, 1829) SUNDEVALL, Vet.-Ak. Handl., 1835 (1836), 83. (Type, *Platyrhynchus olivaceus* Temminck.)

Rhynchocyclus CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 56. (Type, *Muscipeta flaviventris* Maximilian.)

Similar to *Craspedoprion*, but bill relatively smaller and narrower, subterminal phalanx of middle toe entirely free from outer toe, and edge of outer web of outermost primary never roughened.

Bill much shorter than head, rather broadly triangular, much depressed, its width at frontal antiæ about equal to or slightly less than distance from nostril to tip of maxilla and about twice its depth at same point; lateral outlines of bill faintly concave subbasally more decidedly convex subterminally, where rather rapidly converging to the distinctly uncinate tip of maxilla; exposed culmen about equal to middle toe without claw, distinctly but not sharply ridged, straight basally, then first gradually but finally more strongly decurved to the distinctly uncinate tip of maxilla; gonys very slightly shorter

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than mandibular rami, the interramal space much narrower and rounded anteriorly; maxillary tomium straight or slightly sinuated, distinctly notched subterminally. Nostril oval, nearly horizontal, in anterior end of nasal fossæ, margined above by narrow membrane gradually widening posteriorly. Rictal bristles strongly developed, and feathers of chin and frontal antiæ with distinct bristly tips, those of the latter extending at least halfway between nostril and tip of maxilla, sometimes nearly to tip. Wing moderate, much rounded, with longest primaries exceeding secondaries by about length of exposed culmen; seventh, sixth, seventh and eighth, or seventh, eighth and ninth primaries longest, the tenth (outermost) shorter than fifth, sometimes slightly shorter than first; outer web of outermost primary normal. Tail about as long as distance from bend of wing to end of secondaries, even or slightly rounded, the rectrices narrow but increasing in width terminally. Tarsus much less than one-third but more than one-fourth as long as wing, its scutellation typically exaspidean; middle toe, without claw, decidedly more than half as long as tarsus, its basal phalanx wholly united to outer toe, the second phalanx also adherent for greater part to inner toe, except in *P. sulphurescens*,[a] in which it is united for only about half its length; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe distinctly shorter; hallux about as long as inner toe but stouter, its claw shorter than the digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Above plain olive-green, duller, sometimes grayish, on pileum, the wings dusky with yellowish edgings, the middle and greater coverts tipped with olive-yellow or yellowish olive; beneath light yellow or olive-yellow, tinged with olive on chest and sides, the throat sometimes grayish. In *P. flaviventris* the upper parts light yellowish olive-green, supraloral region and upper eyelid saffron yellow, under parts gamboge yellow, paler posteriorly.

Nidification.—Nest (of *R. cinereiceps*) "a pendulous inverted pouch, suspended from a single twig, composed almost entirely of slender black filaments resembling horse-hairs . . . so loosely built as to be easily seen through when held up to the light;" the entrance "at the extreme lower end, the nest proper being a sort of pocket on one side, about 2 inches above the entrance." Eggs, flesh colored, with a ring around larger end of violet and reddish brown spots.[b]

Range.—Southern Mexico to Peru, Bolivia, and Paraguay. (About ten species.)

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[a] *P. flavo-olivaceus* Lawrence, which Doctor Sclater synonymizes with *P. sulphurescens* differs conspicuously in respect to extent of cohesion of the anterior toes, the second phalanx of the middle toe being united to the outer toe for its entire length. It is also sufficiently distinct in coloration.

[b] Nehrkorn, Journ. für Orn., 1879, 356.

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KEY TO THE SPECIES OF RHYNCHOCYCLUS.

a. Throat yellow (gamboge or wax yellow); supraloral streak saffron yellow. (Colombia to Guiana and Brazil.).....**Rhynchocyclus flaviventris** (extralimital)[a]

aa. Throat pale grayish, or at most only tinged with olive-yellow; supraloral streak white.

b. Grayish of throat not extending to chest, and strongly tinged with pale olive-yellow.

c. Larger (wing not less than 60, tail more than 50 mm.).

d. Darker, the pileum and hindneck deep slate color, faintly tinged with olive-green, the chest and sides deeper olive-greenish. (Brazil.)
Rhynchocyclus scotius (extralimital)[b]

dd. Paler, the pileum and hindneck lighter slate color or slate-gray, strongly tinged with olive-green, the chest and sides paler olive-greenish.

e. Larger (wing 66–68, tail 57–60 mm.); coloration slightly darker, with pileum more grayish. (Southern Brazil, Paraguay, etc., to Colombia.)
Rhynchocyclus sulphurescens (extralimital)[c]

ee. Smaller (wing 61–64, tail 53–56 mm.); coloration slightly paler, with pileum more olive-green. (Panama.)
Rhynchocyclus flavo-olivaceus (p. 391)

cc. Smaller (wing 52, tail 44 mm.). (Venezuela; northern Brazil?.)
Rhynchocyclus assimilis ? (extralimital)[d]

bb. Grayish of throat extending over chest, not strongly, if at all, tinged with olive-yellow.

c. Pileum and hindneck much darker gray; back, etc., less yellowish olive-green; greater wing-coverts very broadly edged with clear sulphur or primrose yellow, and middle coverts broadly tipped with same. (Panama; Costa Rica?)
Rhynchocyclus marginatus (p. 392)

cc. Pileum and hindneck much paler gray; back, etc., more yellowish olive-green; greater wing-coverts edged (not conspicuously) with yellowish olive-green. (Southern Mexico to Costa Rica.) .....**Rhynchocyclus cinereiceps** (p. 394)

RHYNCHOCYCLUS FLAVO-OLIVACEUS Lawrence.

YELLOW-OLIVE FLYCATCHER.

Adult male.—Pileum and hindneck between olive-green and mouse-gray but nearer the former; back, scapulars, rump, upper tail-coverts and lesser wing-coverts bright olive-green; wings dusky with yellowish olive-green edgings, these broader and pure sulphur or primrose

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[a] *M[uscipeta] flaviventris* Maxmilian, Beitr. Natürg. Bras., iii, 1831, 929 (Brazil; cites ? *Platyrynchos flaviventer* Spix, Av. Bras., ii, 32, pl. 15, fig. 1).—*R[hynchocylus] flaviventris* Cabanis and Heine, Mus. Hein, ii, 1859, 56 (Bahia).—*Rhynchocyclus flaviventris* Sclater, Cat. Am. Birds, 1862, 221; Cat. Birds Brit. Mus., xiv, 1888, 171.—*T[yrannula] flaviventris* Lichtenstein, Verz. Doubl., 1823, 50.—[*Cyclorhynchus*] *flaviventer* Bonaparte, Consp. Av., i, 1850, 187.

[b] *Rhynchocyclus scotius* Oberholser, Proc. U. S. Nat. Mus., xxv, No. 1276, Aug. 30, 1902, 63 (Brazil; coll. U. S. Nat. Mus.).

[c] *Platyrhynchus sulphurescens* Spix, Av. Bras., ii, 1825, 10, pl. 12, fig. 1 (Rio de Janeiro, Brazil).—*Cyclorhynchus sulphurescens* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, i, 249.—*R[hynchocyclus] sulphurescens* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 56, footnote (Brazil); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 168, part.—*Platyrhynchus nuchalis* Maximilian, Beitr. Natürg. Bras., iii 1831, 971.—*Cyclorhynchus nuchalis* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 503.

[d] [?] *Rhynchocyclus assimilis* Pelzeln, Orn. Bras., ii, 1869, 181 (Engenho do Gama, S. Vicente, Borba, Rio Negro, and Barra do Rio Negro, n. Brazil; coll. Vienna Mus.).

I have not seen a specimen authoritatively identified as *R. assimilis*, the one doubtfully so identified by me being from Venezuela.

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yellow on inner secondaries; outer webs of greater and middle coverts broadly tipped with sulphur or primrose yellow, forming two distinct bands; tail deep grayish brown (hair brown) the outer webs of rectrices edged with olive-green; a grayish white supraloral line extending to and involving upper eyelid; an indistinct dusky spot on lores at anterior angle of eye; auricular region dull olive-greenish with narrow shaft-streaks of pale yellow; chin and throat pale yellowish gray, passing into light yellowish olive-green on chest and sides, the rest of under parts, including axillars and under wing-coverts, clear sulphur yellow; inner webs of remiges edged with pale primrose yellow; maxilla brownish black, mandible brownish white or dull pale buffy (in dried skins); iris grayish brown;[a] legs and feet light brownish (in dried skins); length (skins), 115–117 (116); wing, 61.5–63.5 (62.5); tail, 53–56 (54.5); exposed culmen, 11–12 (11.5); tarsus, 17.5; middle toe, 9.5–10 (9.7).[b]

Panama (Lion Hill Station; near Panama City; San Pablo Station; Santa Fé de Veragua; Calovevora); Costa Rica (San Carlos)?

Platyrhynchus sulphurescens (not of Spix) LAWRENCE, Ann. Lyc. N. H. N. Y., vii, 1862, 334 (Lion Hill Station, Panama R. R.).

Cyclorhynchus sulphurescens LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473 (Lion Hill).—SCLATER, Ibis, 1859, 444.

(?)*Rhynchocyclus sulphurescens* FRANTZIUS, Jour. für Orn., 1869, 307 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San Carlos, Costa Rica).

Rhynchocyclus sulphurescens LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 112, 146 (corrects error in previous identification of specimen from Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 168, part (Panama City, San Pablo Station, Santa Fé de Veragua, and Calovevora, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 9, part (Panama localities).

[*Rhynchocyclus sulphurescens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49, part.

Rhynchocyclus flavo-olivaceus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867 (pub. in 1863), 8 (Lion Hill Station, Panama R. R.; coll. G. N. Lawrence.)—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama; crit.).—SALVIN, Proc. Zoll. Soc. Lond., 1867, 148 (Santa Fé de Veragua, Panama; crit.).

[*Rhynchocyclus*] *flavo-olivaceus* SHARPE, Hand-list, iii, 1901, 102.

R[*hynchocyclus*] *sulphurescens flavo-olivaceus* ALLEN, Bull. Am. Mus. N. H., iv, Dec., 1892, 337, in text (crit.).

[*Elainia*] *flavo-olivacea* GRAY, Hand-list, i, 1869, 354, no. 5376.

RHYNCHOCYCLUS MARGINATUS Lawrence.

YELLOW-MARGINED FLYCATCHER.

Adults (*sexes alike*).—Pileum and hindneck plain dark mouse gray or olive-slate; back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain olive-green; tail deep grayish brown (dark hair brown) the outer webs of rectrices edged with olive-green; wings dull

[a] Heyde, manuscript.

[b] Two specimens.

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black or dusky, the middle coverts very broadly tipped, the greater coverts and inner secondaries very broadly edged [a] with pale sulphur or deep primrose yellow, the remiges (except inner secondaries) narrowly edged with olive-yellow; a narrow supraloral streak of grayish white; a white orbital ring, interrupted at anterior angle of eye by a dusky triangular spot; auricular, suborbital, and malar regions grayish, the first narrowly streaked with white; chin, throat, and chest pale gray, very faintly tinged with pale yellow; rest of under parts, including axillars and under wing-coverts, light sulphur yellow, the sides (especially sides of breast) tinged with olive; a dusky spot occupying under primary-covert area; inner webs of remiges edged with yellowish white; maxilla black, mandible pale brownish (in dried skins); legs and feet dusky horn color (in dried skins).

Adult male.—Length (skin), 121; wing, 62.5; tail, 50; exposed culmen, 11.5; tarsus, 15.5; middle toe, 9.5.[b]

Adult female.—Length (skin), 118; wing, 61.5; tail, 47.5; exposed culmen, 11.5.[c]

Panama (Lion Hill Station; Panama City); eastern Costa Rica (Carrillo).[d]

Cyclorhynchus cinereiceps (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 329 (Lion Hill Station, Panama R. R.).

Rhynchocyclus marginatus LAWRENCE, Proc. Ac. Nat. Sci. Phila., Dec., 1868 (pub. Apr. or May, 1869), 429 (Lion Hill Station, Panama R. R.; coll. G. N. Lawrence).

R[hynchocyclus] marginatus ALLEN, Bull. Am. Mus. N. H., iv, 1892, 317, in text (crit.).

[*Rhynchocyclus*] *marginatus* SHARPE, Hand-list, iii, 1901, 102.

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[a] These yellow markings are very conspicuous, and occupy nearly the entire outer web of both middle and greater coverts.

[b] One specimen (the type).

[c] One specimen (co-type); legs broken.

[d] This very distinct species, although synonymized by Doctor Sclater with *R. sulphurescens* is much more nearly related to *R. cinereiceps*, from which it differs in smaller size, much darker coloration of upper parts, and conspicuous clear yellow wing-markings.

The specimen from Costa Rica (Carrillo, Nov. 24, 1898, C. F. Underwood), in Mr. Bangs' collection, is precisely like the type in coloration except that the pileum and hindneck are slightly darker and decidedly clearer slate color, contrasting quite abruptly with the olive-green of the back, and the yellow of the wing-markings and abdomen slightly deeper, differences doubtless due, in part at least, to the plumage being fresher. The measurements, however, are decidedly different, comparing with those of the type from Panama as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
Adult male (type) from Panama City	63	51	11.5	15.5	9.5
Adult male from Carrillo, Costa Rica	68	56	12.5	16.5	9

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RHYNCHOCYCLUS CINEREICEPS (Sclater).

GRAY-HEADED FLYCATCHER

Similar in coloration of under parts to *R. marginatus*, but upper parts much paler, with olive-green of back, etc., more yellowish and without clear yellow tips or edgings to wing-coverts; larger.

Adults (*sexes alike*).—Pileum and hindneck plain slate-gray; back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain yellowish olive-green; tail deep grayish brown (dark hair brown) the outer web of rectrices edged with olive-green; wings dusky with yellowish olive-green edgings, these more yellowish on secondaries (especially on the inner, where broader), usually more greenish on greater coverts; a narrow grayish white supraloral line; a white orbital ring, interrupted anteriorly by a triangular dusky spot at anterior angle of eye; auricular, suborbital, and malar regions gray, fading into paler gray on chin, throat, and chest, the last very faintly tinged with pale yellow; rest of under parts, including axillars and under wing-coverts, sulphur yellow, the sides, especially sides of breast, tinged with olive; a dusky grayish spot on under primary coverts; inner webs of remiges edged with yellowish white; maxilla black; mandible pale brownish (pale grayish or lilaceous in life); iris white or grayish white; legs and feet light brownish in dried skins (flesh color or lilaceous in life).

Adult male.—Length (skins), 118–136 (129); wing, 60.5–68.5 (64.3); tail, 55–61 (56.9); exposed culmen, 11.5–13.5 (12.2); tarsus, 17–19 (17.9); middle toe, 9–11 (9.9).[a]

Adult female.—Length (skins), 120–135 (126); wing, 60–66.5 (63.2); tail, 50–59 (54.9); exposed culmen, 12–13.5 (12.7); tarsus, 17–19 (18.1); middle toe, 9.5–10.5 (10.1).[b]

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[a] Nineteen specimens.

[b] Fourteen specimens.

Specimens from separate geographic areas compare as follows in average measurements:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Vera Cruz and Oaxaca	64.3	57.7	12.7	18	10.1
Three adult males from Chiapas	65	58	12.2	18	10.3
Ten adult males from Nicaragua and Costa Rica	64.1	56.2	11.8	17.7	9.6
FEMALES.					
Four adult females from Vera Cruz and Oaxaca	62.9	55.9	12.2	17.7	10.1
Two adult females from Chiapas	63	54.7	12.2	17.7	10
One adult female from Yucatan	64	59	13.5	18	10
Seven adult females from Costa Rica	63.3	53.6	11.1	18.3	10.1

Apparently there are no color differences.

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Young.—Similar in coloration of upper parts to adults but slightly duller, the gray of pileum and hindneck very slightly tinged with brownish; yellow of under parts very much paler, almost yellowish white.

Southern Mexico, in States of Vera Cruz (Playa Vicente; Pasa Nueva; Santa Lucrecia), Oaxaca (Santa Efigenia; Tapana; Guichicovi), Yucatan (Merida; Tizimin), and Chiapas (Huehuetan; mountains near Tonalá; Tuxtla Gutierrez); Guatemala (Choctum; Cajabon Chisec; Volcan de Fuego; Escuintla; Naranjo); Honduras (San Pedro; Truxillo); Nicaragua (Greytown; Chinandega; Sucuyá; San Juan del Sur; Rio San Juan); Costa Rica (Angostura; La Palma de Nicoya; Pozo Azul de Pirris; Naranjo; Carrillo; Bonilla; Jiménez; Pigres; Juan Viñas); Panama (Lion Hill Station)?

Cyclorhynchus cinereiceps SCLATER, Ibis, Oct., 1859, 443 (Oaxaca, Mexico; coll. P. L. Sclater); Proc. Zool. Soc. Lond., 1859, 384 (Playa Vicente, Vera Cruz).—SALVIN and SCLATER, Ibis, 1860, 399 (Escuintla, Guatemala).

Rhynchocyclus cinereiceps SCLATER, Cat. Am. Birds, 1862, 220 (Oaxaca; Cajabon, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 169 (Oaxaca; n. Yucatan; Choctum, Cajabon, Escuintla, Chisec, and Volcan de Agua, Guatemala; San Pedro, Honduras; Angostura, Costa Rica; Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Isthmus Panama); 1870, 837 (San Pedro, Honduras).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 201 (Merida, Yucatan).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Santa Efigenia and Tapana, Oaxaca).—NEHRKORN, Journ. für Orn., 1879, 356 (descr. nest and eggs).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 447 (Tizimin, Yucatan).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 395 (La Palma de Nicoya, Costa Rica); vi, 1883, 374, 384 (San Juan del Sur and Sucuyá, Nicaragua).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 395 (descr. nest).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 10.—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Greytown, Nicaragua).—UNDERWOOD, Ibis, 1896, 437 (Volcan de Miravalles, Costa Rica).

[*Rhynchocyclus*] *cinereiceps* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.—SHARPE, Hand-list, iii, 1901, 102.

[*Elainia*] *cinereiceps* GRAY, Hand-list, i, 1869, 354, no. 5372.

Rhynchocyclus sulphurescens (not *Platyrhynchus sulphurescens* Spix) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 112 (Angostura, Costa Rica; see correction on p. 146).—(?)FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—(?) BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San Carlos, Costa Rica).

Genus SERPOPHAGA Gould.

Serpophaga GOULD, Zool. Voy. "Beagle," iii, 1841, 49. (Type, *S. albocoronata* Gould, = *Sylvia subcristata* Vieillot.)

Serphophaga (emendation) CABANIS and HEINE, Mus. Hein., ii, 1859, 53.

Small Tyrannidæ (wing not more than 63 mm., usually much less), with small slender bill, basal phalanx of middle toe only about half united to outer toe, and almost wholly free from inner toe, the coloration plain gray and dusky above, with partially concealed white spot on crown, plain light gray or grayish white below (sometimes passing into pale yellow on abdomen, etc.).

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Bill about half as long as head, very narrow, its width at frontal antiæ equal to less than two-thirds the distance from nostril to tip of maxilla, but decidedly greater than its depth at same point; exposed culmen much shorter than middle toe without claw, distinctly and rather sharply ridged, straight to near tip, where gradually but not strongly decurved, the tip of maxilla not strongly uncinate; gonys decidedly longer than mandibular rami, nearly straight, ascending terminally, its base usually rather prominent; maxillary tomium nearly straight, but more or less concave subbasally, distinctly notched subterminally. Nostril longitudinally oval or sometimes almost linear, with distinct, sometimes broad, superior membrane. Rictal bristles well developed, and feathers of chin and frontal antiæ with distinct bristly points. Wing moderate, much rounded, with longest primaries exceeding secondaries by about length of exposed culmen; seventh and eighth, or seventh, eighth, and ninth, primaries longest, the tenth (outermost) equal to first, sometimes longer than fourth. Tail not shorter than distance from bend of wing to end of secondaries, sometimes long as wing, slightly rounded or double-rounded, the rectrices rather broad, at least terminally. Tarsus rather long and slender, nearly one-third to slightly more than one-third as long as wing, its scutellation typically exaspidean; middle toe, without claw, slightly less to decidedly more than half as long as tarsus, its basal phalanx united for only about half its length, or a little more, to outer toe, mostly free from inner toe; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux about as long as inner toe, but much stouter, its claw as long, or nearly as long, as digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Above plain gray, the pileum, wings, and tail sometimes black or dusky, the crown with a partially concealed patch of white; under parts light gray, or very pale gray anteriorly and pale yellow posteriorly.

Nidification.—Nest cup-shaped, placed in a bush or beneath an overhanging bank, composed of various soft materials lined with plant down, feathers, etc. Eggs (2–4) white or cream-colored, with or without black and grayish spots around larger end.

Range.—Costa Rica to Peru, Argentina, Paraguay, and Uruguay. (About ten species and subspecies.)

I without hesitation remove from this genus *Tyrannula parvirostris*[a] Gould, type of the genus *Colorhamphus* Sundevall,[b] which differs

[a] *Tyrannula parvirostris* Gould, Zool. Voy. "Beagle," iii, 1841, 48 (Santa Cruz, Patagonia; type now in coll. Brit. Mus.).—*Myiobius parvirostris* Gray, Zool. Voy. "Beagle," iii, 1841, 48.—*Serphophaga parvirostris* Sclater, Cat. Am. Birds, 1862, 212; Cat. Birds Brit. Mus., xiv, 1888, 105.

[b] *Colorhamphus* Sundevall, Met. Nat. Av. Disp. Tent., 1872, 59. (Type, *Tyrannula parvirostris* Gould.)

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in its relatively much shorter and broader bill (exposed culmen shorter than inner toe, without claw, and width at frontal antiæ equal to more than two-thirds the distance from nostril to tip of maxilla), and very different coloration (brown above with russet edgings and bands on wings, and without white crown-spot). I am also doubtful whether *S. subflava* Sclater and Salvin[a] is correctly placed here, its coloration being still more different from that of true *Serpophaga* than is that of *Colorhamphus parvirostris*.

KEY TO THE SUBSPECIES OF SERPOPHAGA CINEREA.

a. Larger (wing of male 56–57, of female 51–55.5 mm.); pileum more sooty black.
  b. Gray of back, etc., deeper and browner; under parts deeper gray. (Peru and Ecuador; n. w. Bolivia?).....**Serpophaga cinerea cinerea** (extralimital)[b]
  bb. Gray of back, etc., paler and clearer; under parts paler gray. (Highlands of Colombia.).....**Serpophaga cinerea cana** (extralimital)[c]
a. Smaller (wing of male 50–52, of female 48.5–50 mm.; pileum deeper black (less sooty). (Costa Rica and Panama.).....**Serpophaga cinerea grisea** (p. 397)

SERPOPHAGA CINEREA GRISEA (Lawrence).

BLACK-HOODED FLYCATCHER.

Adult male.—Pileum and hindneck plain slate-black with a small concealed patch of white, or white streaks, in center of crown; back, scapulars, and rump plain gray (no. 6 or between this and cinereous); the upper tail-coverts slightly darker; tail dull black, passing into dusky grayish at terminal margin; lesser wing-coverts black centrally, margined with gray; rest of wings dull black, the middle and greater coverts margined terminally with gray or grayish white, the inner secondaries edged with the same; sides of head (auricular, suborbital, and loral regions) blackish, like pileum, fading into gray

[a] *Serphophaga subflava* Sclater and Salvin, Nomencl. Av. Neotr., 1873, 158 (Pará, Brazil; coll. P. L. Sclater); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 105.

[b] *Euscarthmus cinereus* Strickland, Ann. and Mag. Nat. Hist., xiii, 1844, 414 ("Chili" coll. H. E. Strickland.)—*Serpophaga cinerea* Sclater, Proc. Zool. Soc. Lond., 1858, 458 (Cuenca, Gualaquiza, and Xivarro, Ecuador).—*S[erphophaga] cinerea* Cabanis and Heine, Mus. Hein., ii, 1859, 53 ("Brazil").—*Serphophaga cinerea* Salvin, Cat. Strickland Coll., 1882, 304; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 103, part (Riobamba, Cuenca, and Sical, Ecuador; Baganti, Bolivia?).—*L[eptopogon] cinereus* Tschudi, in Wiegmann's Archiv. für Naturg., 1844, part i, 276.—*E[lania] cinerea* Gray, Gen. Birds, i, 1847, 250.

[c] *Serphophaga cinerea* (not *Euscarthmus cinereus* Strickland) Sclater, Cat. Am. Birds, 1862, 211 part (Bogota, Colombia).—Salvin, Proc. Zool. Soc. Lond., 1879, 512 (Colombia); Sclater, Cat. Birds Brit. Mus., xiv, 1888,103, part (Bogota, Envigado, and Frontino, Colombia); Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1888, 20, part (Colombia).—*Serpophaga cinerea grisea* (not *Serpophaga grisea* Lawrence) Bangs, Proc. Biol. Soc. Wash.,xiii, Nov. 11, 1899, 97 (Chirua, San Miguel, and La Concepcion, Santa Marta, Colombia).—*Serphophaga cinerea cana* Bangs, Proc. Biol. Soc. Wash., xvii, May 18, 1904, 113 (Chirua, Sierra Nevada de Santa Marta, 7,000 ft. alt., Colombia; coll. E. A. and O. Bangs).

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on malar region; chin and throat grayish white; chest, sides, flanks, under tail-coverts, axillars, and under wing-coverts pale gray (no. 9), fading into white on median portion of breast, abdomen, and anal region; bill, legs, and feet brownish black; iris brown; length (skins), 92–104 (97); wing, 50–52 (51.4); tail, 39–40 (39.4); exposed culmen, 8.5–9.5 (9); tarsus, 16.5–17 (16.7); middle toe, 9–9.5 (9.1).[a]

Adult female.—Similar to the adult male and not always distinguishable, but usually with white spot in center of crown smaller (sometimes obsolete); length (skins), 89–104 (95.5); wing, 48.5–50 (49); tail, 37–38 (37.7); exposed culmen, 9; tarsus, 15.5–16 (15.7); middle toe, 8.5.[b]

Young.—Essentially like adults but pileum dusky grayish, without any concealed white in center, gray of upper parts tinged with brown (especially on rump), tips of middle and greater wing-coverts more brownish, and white of posterior under parts tinged with brown.

Costa Rica (near San José; Naranjo; Carrillo; Bonilla; Navarro; Coliblanco) and Panama (Santa Fé de Veragua; Boquete, 5,000 to 6,000 feet).

Serpophaga cinerea (not *Euscarthmus cinereus* Strickland) SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé de Veragua, Panama; crit.); Ibis, 1869, 319 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 62 (Naranjo, Costa Rica).

Serphophaga cinerea SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 103, part (Costa Rica; Chiriqui and Santa Fé de Veragua, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 20, part (Naranjo, Costa Rica; Santa Fé de Veragua, Panama).

[*Serphophaga*] *cinerea* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 47, part.

Serpophaga grisea LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, Nov., 1871, 139 (near San José, Costa Rica; coll. G. N. Lawrence).—SALVIN, Ibis, 1874, 315 (crit.).

[*Serphophaga*] *grisea* SHARPE, Hand-list, iii, 1901, 112, part (Costa Rica; Panama).

Serpophaga cinerea grisea BANGS, Proc. New Engl. Zool. Club, iii, Jan. 30, 1902, 35 (Boquete, Panama, 5,000 to 6,000 ft.).

S[*erpophaga*] *cinerea grisea* BANGS, Proc. Biol. Soc. Wash., xvii, 1904, 113, 114, in text.

Genus MYIOPAGIS Salvin and Godman.

Myiopagis[c] SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, pt. 4, Dec., 1888, 26. (Type, *Elainea placens* Sclater.)

Myopagis (emendation?) ALLEN, Bull. Am. Mus. N. H., ii, Oct., 1889, 195, footnote.

Rather small Tyrannidæ (wing about 60–75 mm.), with bill very small and narrow (exposed culmen little if any longer than middle toe without claw, width at frontal antiæ equal to less than two-thirds

[a] Four specimens. [b] Three specimens.

[c] *Μυῖα*, a fly; *παγίς*, a trap.

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the distance from nostril to tip of maxilla), basal phalanx of middle toe wholly, or almost wholly, united to outer toe and about halfway united to inner toe, and crown with a partially concealed patch of yellow or yellowish white.

Bill small and narrow (about half as long as head, its width at frontal antiæ equal to less than two-thirds the distance from nostril to tip of maxilla and not much, if any, greater than its depth at same point), narrowly triángular or wedge-shaped, with practically straight lateral outlines in vertical profile; exposed culmen little, if any, longer (sometimes slightly shorter) than inner toe without claw, distinctly, almost sharply, ridged, straight for most of its length, slightly decurved terminally, the tip of maxilla not distinctly uncinate; gonys much longer than mandibular rami, faintly convex or nearly straight. Nostril nearly circular, margined at least above by narrow membrane, sometimes with narrow membrane all round, except at lower-anterior margin. Rictal bristles obvious, but weak, the feathers of chin and frontal antiæ with rather distinct, though small, bristly points. Wing moderate, rather pointed, with longest primaries exceeding secondaries by more than length of middle toe without, but by less than middle toe with, claw; seventh and eighth or eighth and ninth primaries longest, the tenth (outermost) longer than fourth, sometimes equal to fifth. Tail nearly as long as wing (much longer than distance from bend of wing to end of secondaries), even or slightly double-rounded, the rectrices widening terminally (except in *M. cotta*). Tarsus more than one-fourth but less than one-third as long as wing, slender, its scutella distinct and typically exaspidean; middle toe, without claw, a little more to decidedly more than half as long as tarsus, its basal phalanx wholly or for much the greater part united to outer toe, united for about half its length to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux about as long as inner toe or slightly shorter, its claw shorter than the digit; all the claws moderately curved, compressed.

Coloration.—Above plain olive or olive-green, passing into dusky olive, or slate-gray streaked with dusky, on pileum, the crown with a partly concealed patch of lemon yellow or yellowish white; middle and greater wing-coverts sometimes tipped with pale yellow or yellowish white; under parts grayish white anteriorly, passing into light yellow or yellowish white posteriorly.

Range.—Southern Mexico to Peru, Bolivia, southeastern Brazil, and Guiana; one species peculiar to Jamaica. (About eight species and subspecies.)

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At least two species must be removed from this genus. One of these is *Muscicapara gaimardi* D'Orbigny and Lafresnaye,[a] which, having pycnaspidean tarsi, must be placed (according to our present definition of Oligomyodean groups) in the Cotingidæ;[b] the other is *Elainea ruficeps* Pelzeln,[c] a true Tyrannine, but certainly not a member of the present genus, from which it differs in relatively much larger and broader bill, much stouter feet, shorter and more rounded wing, relatively much shorter tail, differently shaped nostrils, and dissimilar coloration, and not being referable to any other genus, should constitute one by itself.

KEY TO THE SPECIES AND SUBSPECIES OF MYIOPAGIS.

a. Back olive-green. (*Myiopagis placens.*)

b. Greater wing-coverts without distinct paler edgings; sides of pileum grayish brown.

c. General color slightly darker, especially the sides and front of pileum; throat grayer; yellow of abdomen, etc., slightly deeper. (Southeastern Mexico to Honduras.).....**Myiopagis placens placens** (p. 401)

cc. General color slightly paler, especially sides and front of pileum; throat more whitish, and yellow of abdomen, etc., paler. (Tres Marias Islands, western Mexico.)

d. Larger and slightly darker, with back distinctly olive-green and throat distinctly grayish; male averaging wing 68.5, tail 68.3. (Western Mexico; occasional on Tres Marias Islands.)...**Myiopagis placens jaliscensis** (p. 402)

dd. Smaller and slightly paler, with back grayish olive-green and throat whitish; adult male averaging wing 63.9, tail 62. (Tres Marias Islands, western Mexico.).....**Myiopagis placens minima** (p. 403)

bb. Greater wing-coverts with distinct pale yellowish olive edgings; sides of pileum dusky grayish brown or sooty.

c. Slightly darker. (Nicaragua, Costa Rica, and Panama.) **Myiopagis placens accola** (p. 403)

cc. Slightly paler. (Colombia.).....**Myiopagis placens pallens** (extralimital)[d]

aa. Back olive-brown. (Jamaica.).....**Myiopagis cotta** (p. 404)

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[a] *Muscicapa albicilla* (not of Pallas, 1826) D'Orbigny and Lafresnaye, Mag. de Zool., 1839 (Synop. Av., i, p. 52).—*Muscicapara gaimardi* D'Orbigny and Lafresnaye, Voy. Amer. Mérid., Ois., 1840, 326.—*Elainea gaimardi*, part, Sclater, Cat. Birds Brit. Mus., xiv, 1888, 150 (excl. syn. *Elainia macilvainii* Lawrence).—[*Myiopagis*] *gaimardi* Sharpe, Hand-list, iii, 1901, 116.—*Elainea elegans* Pelzeln, Orn. Bras., ii. Abth., 1879, 179 (Engenho do Gama, Borba, and Maribatanas, Brazil; coll. Vienna Mus.).

Having seen authentic specimens of *E. elegans* only, I merely follow Doctor Sclater in considering it the same as *Muscicapara gaimardi* D'Orbigny; but as Doctor Sclater erroneously referred another form to the same species, *E. macilvainii* Lawrence, which is at least subspecifically distinct, he may have erred in this case also.

[b] Genus *Elainopsis* Ridgway.

[c] *Elainea ruficeps* Pelzeln, Orn. Bras., ii Abth., 1879, 108, 179 (Borba, Brazil; coll. Vienna Mus.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 152.

[d] *Myiopagis placens pallens* Bangs, Proc. New Engl. Zool. Club, iii, Mar. 31, 1902, 85 (Santa Marta Mts., Colombia; coll. E. A. and O. Bangs).

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MYIOPAGIS PLACENS PLACENS (Sclater).

PLACID FLYCATCHER.

Adults (*sexes alike*).—Pileum grayish brown (deep hair brown) with a large central concealed patch of bright yellow (varying from canary or lemon to slightly orange yellow); back, scapulars, rump, upper tail-coverts, and lesser wing-coverts, plain olive-green; tail deep grayish brown (dark hair brown), the outer webs of rectrices edged with olive-green; wings dusky with narrow olive-green edgings, these broader and more yellowish (olive-yellow) on secondaries; a narrow and usually broken or indistinct superciliary streak of grayish white; a dusky spot on lores at anterior angle of eye; auricular region dusky grayish with narrow shaft-streaks of grayish white; an indistinct postocular streak of dusky; chin and throat pale gray, the chest deeper gray, strongly tinged with olive-green; rest of under parts, including axillars and under wing-coverts, light yellow (sulphur varying to nearly canary yellow), the sides tinged with olive; inner webs of remiges edged with yellowish white; bill brownish black, the basal half, more or less, of mandible pale brownish; iris brown; legs and feet black or dusky (in dried skins).

Young.—Pileum, hindneck, back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain wood brown or isabella color, darker on pileum; no yellow on crown; otherwise essentially like adults, but yellow of under parts paler (more primrose).

Adult male.—Length (skins), 127–140 (133); wing, 63.5–69.5 (66.4); tail, 60–67 (63.4); exposed culmen, 10–11.5 (10.9); tarsus, 16.5–19 (17.7); middle toe, 8.5–10 (9.2).[a]

Adult female.—Length (skins), 120–136 (125); wing, 58.5–67.5 (62.1); tail, 53–63.5 (57); exposed culmen, 10–10.5 (10.3); tarsus, 16–18 (16.8); middle toe, 9–9.5 (9.2).[b]

[a] Eight specimens.

[b] Five specimens.

Specimens from separate geographic areas compare in average measurements as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Vera Cruz	65.5	62.7	11.2	17.5	9.7
Two adult males from Yucatan and Campeche	65.2	60.5	11	17.5	8.7
One adult male from Cozumel Island	67.5	66.5	10.5	19	9
Two adult males from Chiapas	67	63.7	11.2	17.7	9.2
One adult male from Honduras (Ceiba)	69.5	67	10	17.5	9
FEMALES.					
Three adult females from Vera Cruz	60.3	55.3	10.2	16.2	9.2
Two adult females from Cozumel Island	64.7	59.5	10.5	17.7	9.7

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Southern Mexico, in States of Vera Cruz (Cordova; Jalapa; Pasa Nueva; Buena Vista; Motzorongo; Otatitlan; Santa Lucrecia), Campeche (Apazote), Yucatan (Merida; La Vega; Chichen-Itza; Cozumel Island; Mujeres Island), and Chiapas (Palenque), and southward through Guatemala (Coban; Choctum; Cajabon; Volcan de Agua; Retalhuleu) to Honduras (Ceiba).

Elainea, sp.? SCLATER, Proc. Zool. Soc. Lond., 1856, 297 (Cordova, Vera Cruz).

Elainia placens SCLATER, Proc. Zool. Soc. Lond., 1859, 46 (Cordova, Vera Cruz; coll. A. Sallé); Ibis, 1859, 443 (Cordova; Guatemala).—SALVIN and SCLATER, Ibis, 1859, 123, pl. 4, fig. 2.

Elainea placens SCLATER, Proc. Zool. Soc. Lond., 1861, 407 (monogr.); Cat. Am. Birds, 1862, 217 (Cordova, Vera Cruz; Choctum, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 148, part (Cordova; Mujeres and Cozumel islands, Yucatan; Volcan de Agua, Retalhuleu, and Choctum, Guatemala).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 201 (Yucatan).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 447 (Yucatan).

Elainea placens? RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 571 (Cozumel I.; crit.).

E[*lainea*] *placens* SCLATER, Proc. Zool. Soc. Lond., 1870, 835 (crit.).

[*Elainea*] *placens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48, part.—HEINE and REICHENOW, Nom. Mus. Hein., 1890, 143 (Mexico).

E[*lainia*] *placens* SALVIN, Ibis, 1860, 194, in text (Coban, Guatemala).

[*Elainia*] *placens* GRAY, Hand-list, i, 1869, 352, no. 5324.

Myiopagis placens SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 26, part (Cordova, Jalapa, and Alvarado, Vera Cruz; Merida, Mujeres I., and Cozumel I., Yucatan; Coban, Cajabon, Choctum, Retalhuleu, and Volcan de Agua, Guatemala).—SALVIN, Ibis, 1889, 359 (Mujeres and Cozumel islands; crit.).

[*Myiopagis*] *placens* SHARPE, Hand-list, iii, 1901, 116, part.

Myiopagis placens placens BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, July, 1903, 147 (Ceiba, Honduras).

Myopagis yucatanensis NELSON, Proc. Biol. Soc. Wash., xiv, Sept. 25, 1901, 172 (La Vega, Yucatan; coll. U. S. Nat. Mus.; =young).

MYIOPAGIS PLACENS JALISCENSIS Nelson.

JALISCO PLACID FLYCATCHER.

Similar to *M. p. placens* but slightly larger, with relatively longer tail, decidedly narrower bill, and slightly paler coloration.

Adult male.—Length (skins), 130–145 (139); wing, 67–70 (68.6); tail, 64–69.5 (68.3); exposed culmen, 11; tarsus, 16.5–19 (17.8); middle toe, 9–10 (9.5).[a]

Southwestern Mexico, in State of Jalisco (San Sebastian; Barranca Ibarra), probably also southern Sinaloa and Territory of Tepic; straggler to the Tres Marias Islands.

Elainea placens (not of Sclater, 1859) GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871 (1872), 279 (Tres Marias Islands).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 286 (Tres Marias).

[a] Five specimens, two (one of them with sex undetermined) from the Tres Marias Islands.

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Myiopagis placens SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 26, part (Tres Marias).[a]—NELSON, North Am. Fauna, no. 14, 1899, 50 (Tres Marias; crit.).

Myiopagis placens jaliscensis NELSON, Auk, xvii, July, 1900, 264 (San Sebastian, Jalisco; coll. U. S. Nat. Mus.).

[*Myiopagis*] *jaliscensis* SHARPE, Hand-list, iii, 1901, 116.

MYIOPAGIS PLACENS MINIMA Nelson.

YUCATAN PLACID FLYCATCHER.

Similar to *M. p. jaliscensis*, but decidedly smaller and still paler, with back decidedly tinged with gray, rectrices decidedly paler grayish brown, and throat more whitish.

Adult male.—Length (skins), 127–129 (128.5); wing, 61.5–65.5 (63.9); tail, 59.5–63.5 (62); exposed culmen, 10–11 (10.6); tarsus, 17.5–18.5 (18); middle toe, 9.[b]

Adult female.—Length (skins), 120–137 (127); wing, 61–67 (64.5); tail, 60.5–63 (61.6); exposed culmen, 10–11 (10.5); tarsus, 16.5–18.5 (17.3); middle toe, 8.5–9 (8.8).[c]

Tres Marias Islands, western Mexico (Maria Madre Island).

Elainea placens (not of Sclater, 1859) LAWRENCE, Proc. Bost. Soc. N. H., xiv, 1871 (1872), 279 (Tres Marias); Mem. Bost. Soc. N. H., ii, 1874, 286 (Tres Marias).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 148, part (Tres Marias).

Myiopagis placens SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 26, part (Tres Marias).

Myiopagis placens minimus NELSON, Proc. Biol. Soc. Wash., xii, Jan. 27, 1898, 9 (Maria Madre Island, Tres Marias group, w. Mexico; coll. U. S. Nat. Mus.); North Am. Fauna, no. 14, 1899, 50 (Tres Marias; habits).

[*Myiopagis*] *minimus* SHARPE, Hand-list, iii, 1901, 116.

MYIOPAGIS PLACENS ACCOLA Bangs.

PANAMA PLACID FLYCATCHER.

Similar to *M. p. placens*, but slightly darker above and with greater wing-coverts distinctly edged with pale yellowish olive or olive-yellow.

Adult male.—Length (skins), 120–142 (133); wing, 60–72 (66.6); tail, 53–68 (61.3); exposed culmen, 10–12 (11.3); tarsus, 16.5–20 (18.1); middle toe, 9–10.5 (9.6).[d]

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[a] Messrs. Salvin and Godman had in hand specimens of this species collected on the Tres Marias by Forrer; whether these represent this or the resident island form I have no means of ascertaining; at any rate, they cite both Grayson and Lawrence, as above, and the only specimens taken by the former were the present form.

[b] Four specimens.

[c] Three specimens.

[d] Sixteen specimens.

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Adult female.—Length (skins), 125–137 (129); wing, 62.5–69 (64.9); tail, 53.5–63.5 (59.4); exposed culmen, 11–11.5 (11.3); tarsus, 17–18.5 (17.9); middle toe, 9–10.5 (9.6).[a]

Nicaragua (San Carlos), Costa Rica (Barranca; Guaitil; Grecia; San Lucas; Bebedero; Volcan de Miravalles; Santo Domingo de San Mateo; Pozo Azul de Pirris; Bonilla), and Panama (Boquete; Calovevora; Volcan de Chiriqui; Chitra; near Panama City; Lion Hill Station; Saboga Island; San Miguel Island).

Elainea placens (not of Sclater, 1859) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama; crit.).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 112 (Barranca, Guaitil, and Grecia, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 197 (Calovevora, Chitra, and Boquete de Chitra, Panama).—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica.)

[*Elainea*] *placens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48, part.

Elainia placens LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328 (Isthmus of Panama).

Myiopagis placens SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 26, part (Barranca, Guaitil, and Grecia, Costa Rica; Volcan de Chiriqui, Chitra, Boquete, Calovevora, and Lion Hill Station, Panama).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (San Carlos, Nicaragua).

[*Myiopagis*] *placens* SHARPE, Hand-list, iii, 1901, 116, part.

Myiopagis placens accola BANGS, Proc. New Engl. Zool. Club, iii, June 30, 1902, 35 (Boquete, Chiriqui, Panama; coll. E. A. and O. Bangs).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 151 (San Miguel and Saboga islands, Bay of Panama; crit.); xlvi, 1906, 217 (Sabana de Panama).

MYIOPAGIS COTTA (Gosse).

COTTA FLYCATCHER.

Adults (*sexes alike*).—Pileum deep sooty brown, with a large central concealed patch of bright lemon or canary yellow; hindneck somewhat lighter brown, passing on back, scapulars, rump, upper tail-coverts, and lesser wing-coverts into plain olive or brownish olive; tail deep grayish brown (dark hair brown), the outer webs of rectrices edged

[a] Seven specimens.

Averages from different geographic areas are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Costa Rica	65	61.1	11	18	9.5
Four adult males from Panama (Boquete)	65.7	59.9	11	17.2	9.2
Three adult males from Saboga Island	68.8	64.1	11.8	18.7	9.8
Three adult males from San Miguel Island	67.7	63.5	11.8	19	9.8
FEMALES.					
Four adult females from Costa Rica	65.4	59.7	11.4	17.9	9.9
One adult female from Panama (near Panama City)	62.5	55	11	18	9
One adult female from Saboga Island	65.5	62.5	11.5	18.5	10
One adult female from San Miguel Island	64.5	59.5	11	17	9

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with light greenish olive; wings dusky, the middle coverts margined or tipped, the greater coverts edged, with light greenish olive, primaries narrowly edged with the same, and secondaries edged with yellowish olive or olive-yellow; a narrow supraloral stripe of dull white, involving upper eyelid, and indistinctly continued beyond; a broad dusky loral streak; a dull white suborbital spot, involving lower eyelid; auricular region dusky grayish brown, with narrow shaft-streaks of whitish; chin, throat, and chest dull white, the feathers grayish beneath surface; rest of underparts, including axillars and under wing-coverts, light sulphur or primrose yellow; inner webs of remiges edged with paler yellow or yellow white; bill dark brown or blackish, the basal half, more or less, of mandible paler brownish; legs and feet dusky (in dried skins).

Young.—Essentially like adults, but pileum, back, etc., browner, the crown without any yellow.

Adult male.—Length (skin), 130; wing, 65.5; tail, 61.5; exposed culmen, 10; tarsus, 18; middle toe, 9.5.[a]

Adult female.—Length (skins), 118–132 (126); wing, 62–65 (63.5); tail, 57.5–60.5 (59.1); exposed culmen, 9–10 (9.6); tarsus, 16.5–17 (16.9); middle toe, 9–10 (9.2).[b]

Island of Jamaica, Greater Antilles.

Elania cotta Gosse, Ann. and Mag. Nat. Hist., iii (2), 1849, 257 (Jamaica); Illustr. Birds Jamaica, 1849, pl. 45.

[*Elaenea*] *cottae* Bonaparte, Consp. Av., i, 1850, 186.

Elainea cotta Sclater, Proc. Zool. Soc. Lond., 1861, 76 (crit.), 408 (monogr.); 1876, 835; Cat. Am. Birds, 1862, 218; Cat. Birds Brit. Mus., xiv, 1888, 149.—Albrecht, Journ. für Orn., 1862, 198.—March, Proc. Ac. Nat. Sci. Philad., 1863, 289.—Cory, Cat. West Ind. Birds, 1892, 14, 109, 130.

[*Elainea*] *cotta* Sclater, Proc. Zool. Soc. Lond., 1870, 835.

[*Elainia*] *cotta* Gray, Hand-list, i, 1869, 352, no. 5325.

Elainia cotta Cory, Auk, iii, 1886, 231; Birds West Ind., 1889, 118.

[*Elainea*] *cotta* Sclater and Salvin, Nom. Av. Neotr., 1873, 48.—Cory, List Birds West Ind., 1885, 15.

[*Elainea*] *cottae* Heine and Reichenow, Nom. Mus. Hein., 1890, 143.

[*Myiopagis*] *cotta* Sharpe, Hand-list, iii, 1901, 116.

Genus TYRANNISCUS Cabanis and Heine.

Tyranniscus[c] Cabanis and Heine, Mus. Hein., ii, Sept. 30, 1859, 57. (Type, *Tyrannulus nigricapillus* Lafresnaye.)

Small Tyrannidæ (wing about 43–60 mm.) with very short and thick bill (its width at frontal antiæ equal to more than two-thirds the distance from nostril to tip of maxilla and not conspicuously greater than its depth at same point), tail more than three-fourths as long as wing, basal phalanx of middle toe united to outer toe for less than its entire length, and nostril in anterior end of nasal fossæ.

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[a] One specimen. [b] Four specimens.

[c] "Diminutivum von τύραννος (Herrscher) = *Tyrannulus*."

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Bill very short and relatively thick (less than half as long as head, its width at frontal antiæ equal to more than two-thirds the distance from nostril to tip of maxilla and not conspicuously greater than its depth at same point); exposed culmen not longer than outer (sometimes shorter than inner) toe without claw, distinctly ridged, gradually and slightly decurved terminally, with tip of maxilla indistinctly uncinate; gonys longer than mandibular rami, straight or very faintly convex, ascending terminally; maxillary tomium faintly sinuated, distinctly but minutely notched subterminally. Nostril in anterior end of nasal fossæ, longitudinally oval, margined above (at least posteriorly) by narrow membrane. Rictal bristles rather small and few in number, but feathers of chin and frontal antiæ with distinct bristly points, the latter extending much beyond nostrils. Wing moderate, rather pointed, the longest primaries exceeding secondaries by about length of exposed culmen, or less; seventh, eighth, seventh and eighth or eighth and ninth primaries longest, the tenth (outermost) equal to fourth or fifth. Tail more than three-fourths as long as wing (*T. parvus*) to very nearly as long (*T. plumbeiceps*), even, slightly rounded or double-rounded or slightly emarginate, the rectrices rather narrow basally but widening terminally. Tarsus one-fourth (*T. plumbeiceps*) to nearly (sometimes quite) one-third as long as wing, its scutella distinct, typically exaspidean; middle toe without claw, more than half as long as tarsus, its basal phalanx united for less than entire length to outer toe, for about half its length to inner toe; outer toe, without claw, reaching to about middle of subterminal phalanx of middle toe, the inner not distinctly shorter; hallux about as long as inner toe, stouter, its claw shorter than the digit; all the claws moderately curved, sharp, compressed.

Coloration.—Above plain olive or olive-green, the pileum sometimes gray or dusky, the wings dusky with olive-yellowish edgings and sometimes with pale yellowish tips to middle and greater coverts; beneath dull whitish or grayish white tinged posteriorly with pale yellow, or mostly light yellowish or yellowish olive; sometimes with a whitish or yellowish superciliary streak.

Range.—Guatemala to southern Peru, Bolivia, and Guiana. (About twelve species.) [a]

I am inclined to agree with Count von Berlepsch that *Pogonotriccus plumbeiceps* Lawrence [b] is a member of this genus, since, while

[a] Of which some (not seen by me) may be not really congeneric.

[b] *Pogonotriccus plumbeiceps* Lawrence, Ann. Lyc. N. H. N. Y., ix, 1869, 267 (Bogota, Colombia; coll. U. S. Nat. Mus.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 99.—*Tyranniscus plumbeiceps* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1885, 90 (Machay, Ecuador); Berlepsch and Stolzman, Proc. Zool. Soc. Lond., 1896, 363 (La Gloria and Garita del Sol, Peru).

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somewhat aberrant in having the tail very nearly as long as the wing, the middle toe longer, compared with the tarsus, and the bill slightly more depressed, the differences are by no means sufficient to warrant placing it in a different genus. Whether it is really a *Pogonotriccus*[a] or not I am not able to determine, no species of that supposed genus being at present available for comparison; but if it should prove to be congeneric with the type of the latter then *Pogonotriccus* should be considered a synonym of *Tyranniscus*.

KEY TO THE SPECIES AND SUBSPECIES OF TYRANNISCUS.

a. Under parts with yellow or yellowish only on sides and flanks.
  b. Supraloral region and upper eyelid grayish white; pileum dull slate color or grayish dusky, different from olive-green of back. (*Tyranniscus vilissimus.*)
    c. Larger (wing of male 58–60, averaging 59.3, of female 52); sides more strongly olive-yellow. (Guatemala and Honduras.)
      Tyranniscus vilissimus vilissimus (p. 408).
    cc. Smaller (wing of male 47–56.5, averaging 51, of female 41–50, averaging 46.2); sides less strongly olive-yellowish. (Nicaragua to Panama.)
      Tyranniscus vilissimus parvus (p. 408).
  bb. Supraloral region and upper eyelid yellow; pileum greenish olive, like back. (Colombia to Peru and Venezuela.).....**Tyranniscus chrysops** (extralimital) [b]
aa. Under parts wholly yellow and olive except chin and upper throat.
  b. Tail not longer than distance from bend of wing to end of secondaries; pileum sooty black. (Colombia to Peru.).....**Tyranniscus nigricapillus** (extralimital) [c]
  bb. Tail nearly as long as distance from bend of wing to tip of longest primary; pileum slate-gray. (Colombia.).....**Tyranniscus plumbeiceps** (extralimital) [d]

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[a] *Pogonotriccus* Cabanis and Heine, Mus. Hein., ii, 1859, 54. (Type, *Muscicapa eximia* Temminck).—*Eupsilostoma* Sclater, Proc. Zool. Soc. Lond., 1860, 68. (Same type.)

[b] *Tyrannulus chrysops* Sclater, Proc. Zool. Soc. Lond., 1858 (pub. 1859), 458 (Gualaquiza, Ecuador; coll. P. L. Sclater).—*Tyranniscus chrysops* Sclater, Cat. Am. Birds, 1862, 216; Cat. Birds Brit. Mus., xiv, 1888, 135.—[*Elainia*] *chrysops* Gray, Hand-list, i, 1869, 356, no. 5413.—*T*[*yranniscus*] *flavifrons* Cabanis and Heine, Mus. Hein., ii, 1859, 58, footnote ("New Granada"; coll. Berlin Mus.).—*Tyrannulus flavidifrons* Sclater, Proc. Zool. Soc. Lond., 1860, 69 (Pallatanga, e. Ecuador; coll. P. L. Sclater).—*Tyranniscus flavidifrons* Sclater, Cat. Am. Birds, 1862, 216.—[*Elainia*] *flavidifrons* Gray, Hand-list, i, 1869, 356, no. 5412.

It is possible this species, as generally understood, may require subdivision, but I have neither the material nor time for inquiry into the matter.

[c] *T*[*yrannulus*] *nigro-capillus* Lafresnaye, Rev. Zool., Sept., 1845, 341 (Bogota, Colombia).—*Tyrannulus nigricapillus* Sclater, Proc. Zool. Soc. Lond., 1860, 93 (above Puellaro, Ecuador; crit.).—*T*[*yranniscus*] *nigricapillus* Cabanis and Heine, Mus. Hein., ii, 1859, 57.—*Tyranniscus nigricapillus* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 131.—[*Elainia*] *nigricapilla* Gray, Hand-list, i, 1869, 356, no. 5416.

[d] See footnote [b] on p. 406.

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TYRANNISCUS VILISSIMUS VILISSIMUS (Sclater and Salvin).

PALTRY FLYCATCHER.

Adults (*sexes alike*).—Pileum plain dull dusky slate or blackish mouse gray, the hindneck similar but tinged with olive, passing into plain greenish olive on back, scapulars, rump, upper tail-coverts and lesser wing-coverts; tail deep grayish brown (dark hair brown), the outer webs of rectrices edged with greenish olive; wings dusky, the greater coverts and secondaries edged with light yellow, the primaries more narrowly edged with olive-yellow or yellowish olive, except the four innermost; a rather indistinct superciliary stripe of grayish white, becoming better defined and more purely white anteriorly; auricular region brownish; malar region, chin, throat, and chest plain pale gray, rather more whitish anteriorly; sides, flanks, and under tail-coverts olive-yellow washed with olive-green, fading to yellowish white on median portion of breast and abdomen; axillars and under wing-coverts mostly pale sulphur or primrose yellow; maxilla brownish black or dusky, mandible slightly paler; legs and feet dusky (in dried skins).

Adult male (*supposed*).—Length (skins), 102–123 (112); wing, 58–60 (59.3); tail, 46.5–48 (47.5); exposed culmen, 8.5–9.5 (9); tarsus, 18–19 (18.5); middle toe, 9–10 (9.5).[a]

Adult female (*supposed*).—Length (skin), 99; wing, 52; tail, 39; exposed culmen, 8.5; tarsus, 17; middle toe, 8.5.[b]

Guatemala (Coban; Calderas; Volcan de Fuego; Tactic; Choctum; El Peten) and Honduras (San Pedro).

Elainea vilissima SCLATER and SALVIN, Ibis, April, 1859, 122, pl. 4, fig. 1 (Coban, Vera Paz, Guatemala; coll. Salvin and Godman).

Elainia vilissima SALVIN, Ibis, 1860, 194, in text (Coban).

Tyranniscus vilissimus SCLATER, Cat. Am. Birds, 1862, 216 (Coban); Cat. Birds Brit. Mus., xvi, 1888, 132 (Coban, Calderas, and Volcan de Fuego, Guatemala).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 843 (San Pedro, Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 33.

[*Tyranniscus*] *vilissimus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48.—SHARPE Hand-list, iii, 1901, 121.

[*Elainia*] *vilissima* GRAY, Hand-list, i, 1869, 356, no. 5414.

TYRANNISCUS VILISSIMUS PARVUS (Lawrence).

LESSER PALTRY FLYCATCHER.

Similar to *T. v. vilissimus*, but decidedly smaller and with the sides and flanks less strongly olive and yellow.

Adult male.—Length (skins), 94–109 (98); wing, 47–56.5 (51); tail, 35–47 (38.4); exposed culmen, 7.5–9 (8.3); tarsus, 15.5–18.5 (16.5); middle toe, 7.5–9.5 (8.7).[c]

[a] Three specimens, sex not determined. [b] One specimen, sex not determined.
[c] Sixteen specimens.

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Adult female.—Length (skins), 76–97 (88); wing, 41–50 (46.2); tail, 31.5–40 (34.5); exposed culmen, 7.5–9 (8.2); tarsus, 14.5–16.5 (15.4); middle toe, 7.5–9 (8.1).[a]

Nicaragua (Greytown; San Carlos) Costa Rica (Turrialba; Angostura; Bonilla; Carrillo; Jiménez; Barranca; Dota; Guayabal; Cariblanco de Sarapiqué; Azahar de Cartago; Pozo Azul de Pirris), and Panama (Boquete; Divala; Bugaba; Calovevora; Santa Fé de Veragua; Lion Hill Station).

Tyranniscus parvus LAWRENCE, Ibis, iv, Jan., 1862, 12 (Panama; coll. G. N. Lawrence); Ann. Lyc. N. Y., vii, 1862, 473 (Lion Hill, Panama R. R.); ix, 1868, 112 (Turrialba, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Lion Hill); 1870, 843 (Panama; Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé, Veragua; Turrialba, Costa Rica); 1870, 197 (Calovevora, Chitra, Boquete, Bugaba, and Volcan de Chiriqui, Panama); Ibis, 1869, 315, in text (Costa Rica; crit).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (Navarro, Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., vi, 1883, 414 (Pirris, Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 132 (Angostura and Turrialba, Costa Rica; Santa Fé, Calovevora, Bugaba, and Volcan de Chiriqui, Veragua; Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 33.—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 505 (Greytown and Rio Escondido, Nicaragua).—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 535 (Costa Rica; crit.).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 36 (Boquete, Panama, 4,000 ft.).

[*Tyranniscus*] *parvus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48.—SHARPE, Hand-list, iii, 1901, 121.

[*Elainia*] *parva* GRAY, Hand-list, i, 1869, 356, no. 5415.

Tyranniscus villissimus (not *Elainea vilissima* Sclater) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 111 (Angostura, Dota, and Barranca, Costa Rica).

Tyranniscus vilissimus FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 132, synonymy, part.

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[a] Eleven specimens.

Averages of Panama specimens compared with those from Costa Rica and Nicaragua are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Panama	52	42.5	8.5	16.4	9
Ten adult males from Costa Rica and Nicaragua	50	39.4	8.2	16.4	8.6
FEMALES.					
Four adult females from Panama	45.4	34.1	8.4	15.4	8
Seven adult females from Costa Rica and Nicaragua	46.6	34.8	8.1	15.3	8.2

If all the birds of this species from Nicaragua, Costa Rica, and Panama are really of one subspecies the individual variation in size is very remarkable. Some specimens, even among those from Panama, are nearly as large as *T. v. vilissimus* from Guatemala; but all that I have seen are readily distinguished from the latter by the much paler and less extensive yellowish color of the sides and flanks.

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Genus LEPTOTRICCUS Cabanis and Heine.

Leptotriccus[a] CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 54, footnote. (Type, *L. sylviolus* Cabanis and Heine.)

Phylloœcia BERTONI, Aves Nueves del Paraguay, Jan., 1901, 120. (Type, *P. chloroleuca* Bertoni=*Leptotriccus sylviolus* Cabanis and Heine.[b])

I have not seen any species of this genus and therefore am unable to give an original diagnosis. Unfortunately, neither the original describer nor later authorities characterize the genus adequately. A free translation of Cabanis' diagnosis is as follows:

In form of bill similar to *Serpophaga*, but wings more strongly developed and rather longer, tail-feathers wider and longer, and plumage greenish, resembling that of *Euscarthmus*.

Sclater (Cat. Birds Brit. Mus., xiv, 1888, 99) says:

In *Leptotriccus* the bill is longer and more compressed than in *Pogonotriccus*, and the rictal bristles not quite so dense, but the forms are closely allied. The feet are weak as in *Pogonotriccus*, but the tarsi are rather longer.

Salvin and Godman (Biol. Centr.-Am., Aves, ii, 1888, 18) do not throw much additional light on its relationships, their remarks on the subject being as follows:

With a bill similar to that of *Lophotriccus* the rictal bristles seem to be longer, there is no occipital crest, the 2d, 3d, 4th, and 5th quills are nearly equal, 1st=8th, the tail is long and very slightly rounded, and the feathers wider than in *Todirostrum*, nearly=wing, the tarsus=⅓ wing.

KEY TO THE SPECIES OF LEPTOTRICCUS.

a. Under parts white; wing without yellow bands.

b. Pileum olive-green like back. (Southeastern Brazil.)

Leptotriccus sylviola (extralimital).[c]

bb. Pileum slate-gray in contrast with olive-green of back. (Panama.)

Leptotriccus superciliaris (p. 411)

aa. Under parts sulphur yellow; wing with two yellow bands. (Venezuela.)

Leptotriccus flaviventris (extralimital).[d]

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[a] "Von λεπτός, zart und τρίκκος."

[b] According to Von Ihering (Revista Museu Paulista, vi, 1904, 325); but Lynch-Arribalzaga (An. Mus. Nac. Buenos Aires, vii, 1902, 389) says Bertoni's species=*Phylloscartes ventralis* (*Muscicapa ventralis* Temminck). Since Von Ihering's determination dates two years later, however, and besides was made by comparison of one of Bertoni's co-types by Count von Berlepsch, Lynch-Arribalzaga's determination is doubtless incorrect.

[c] *L[eptotriccus] sylviolus* Cabanis and Heine, Mus. Hein., ii, 1859, 54, footnote (Brazil; coll. Berlin Mus.).—*Leptotriccus sylviola* Sclater, Cat. Am. Birds, 1862, 211; Cat. Birds Brit. Mus., xiv, 1888, 99.—[*Euscarthmus*] *sylvicola* Gray, Hand-list, i, 1869, 350, no. 5301.—*Phylloœcia chloroleuca* Bertoni, Aves Nueves del Paraguay, Jan., 1901, 120 (upper Paraná).

[d] *Leptotriccus flaviventris* Hartert, Bull. Brit. Orn. Club, no. xlvii, Oct. 30, 1897, p. v. (Ejido and Merida, Venezuela; coll. Tring Mus.); Ibis, 1898, 145 (reprint).

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LEPTOTRICCUS SUPERCILIARIS Sclater and Salvin.

RUFOUS-BROWED FLYCATCHER.

"Above olive-green; wings and tail blackish edged with olive-green; head above and nape dark plumbeous; lores and ring round the eye dark rufous; beneath ashy white, flanks and crissum tinged with olivaceous; bill blackish; feet pale brown; whole length 3.8 inches, wing 2, tail 1.9." [a]

Panama (Calovevora; Chitra).

Leptotriccus superciliaris SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 389 (Chitra, Panama; coll. Salvin and Godman).—SALVIN, Proc. Zool. Soc. Lond., 1870, 196 (Chitra and Calovevora, Panama).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 100 (Chitra and Calovevora).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 18, pl. 36, fig. 2.

[*Leptotriccus*] *superciliaris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 46.—SHARPE, Hand-list, iii, 1901, 111.

[*Euscarthmus*] *superciliaris* GRAY, Hand-list, i, 1869, 350, no. 5302.

Genus CAMPTOSTOMA Sclater.

Camptostoma SCLATER, Proc. Zool. Soc. Lond., 1857, 203. (Type, *C. imberbe* Sclater.)

Myiopatis [b] CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 58. (Type, *Muscicapa incanescens* Maximilian.) (See Berlepsch, Novit. Zool., ix, Apr., 1902, 41.)

Renggerornis BERTONI, Aves Nueves del Paraguay, Jan., 1901, 130. (Type, *R. leucophthalmus* Bertoni = *Muscicapa obsoleta* Temminck).

Very small Tyrannidæ (wing about 44–55 mm.) with short and compressed bill (exposed culmen strongly curved, shorter than middle toe without claw), small rounded nostrils near center of nasal fossæ, minute or obsolete rictal bristles, and plain, dull coloration (plain gray or olive above, the wing with two paler, sometimes whitish, bands, pale grayish or yellowish beneath).

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[a] Sclater, Cat. Birds Brit. Mus., xiv, 1888, 100. A translation of Salvin and Godman's description (in Latin) in the *Biologia Centrali-Americana* (*Aves*, ii, 1888, 18) is as follows:

"Above greenish olive; wings and tail blackish, with yellowish olive edgings; pileum and hindneck blackish cinereous; superciliary region chestnut; frontal line and parotic region white; beneath pearly white, the breast, particularly on sides, suffused with cinereous; abdomen and crissum yellowish; under wing-coverts white; bill black; feet dusky hazel. Total length 4, wing 1.95, tail 2, bill, to rictus, 0.55, tarsus 0.65." (Description of a female from Calovevora, Panama.)

To the above the authors cited add: "In its long slender tarsi and delicate feet this species resembles *Leptotriccus sylviola* of Brazil, and it also has the pointed wings and long tail of that bird; the bill, however, is somewhat larger and wider.

"The distinct chestnut superciliary streak over each eye is a strongly marked characteristic feature of *L. superciliaris*."

[b] "Von *μυια* (Fliege) und *πατέω* (Kosten, fressen)."

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Bill small and compressed, not more than half as long as head; exposed culmen shorter than middle toe without claw, distinctly, almost sharply, ridged, strongly curved from near base, the tip of maxilla minutely and not distinctly uncinate; gonys much longer than mandibular rami, nearly straight; maxillary tomium more or less concave, minutely and not very distinctly notched subterminally; width of bill at frontal antiæ equal to about half the length of exposed culmen, and little if any greater than its depth at same point. Nostril small, roundish, near center of nasal fossæ, entirely surrounded by membrane. Rictal bristles obvious on close inspection, but very small; feathers of chin and frontal antiæ with minute bristly points. Wing moderate, with longest primaries exceeding secondaries by about the length of exposed culmen, or considerably less; ninth, eighth, or seventh, eighth, and ninth, primaries longest and nearly equal, the tenth (outermost) not shorter than fourth, sometimes intermediate between fifth and sixth. Tail about three-fourths as long as wing (much shorter than distance from bend of wing to end of secondaries), even or very faintly emarginate or double-rounded, the rectrices moderately broad, with broadly rounded tip. Tarsus about one-fourth to nearly one-third as long as wing, rather slender; acrotarsium extending entirely across outer side of tarsus, but the two edges widely separated by a broad nonscutellate strip occupying the posterior half of inner side of the tarsus; middle toe, without claw, decidedly more than half as long as tarsus, its basal phalanx wholly united to outer toe and at least half connected with inner toe; outer toe, without claw, reaching about to middle of subterminal phalanx of middle toe, the inner slightly but decidedly shorter; hallux about as long as inner toe, its claw decidedly shorter than the digit; all the claws rather strongly curved, sharp, compressed.

Coloration.—Above plain gray or olive, the wings dusky with pale edgings, some species with the middle and greater coverts more or less broadly tipped with pale yellowish olive, dull whitish, or cinnamomeous; under parts grayish white, tinged with pale gray on chest and sides, or pale yellow, with or without olive shading on chest and sides, the throat sometimes pale grayish.

Range.—Southwestern border of United States to Ecuador, Guiana, and southeastern Brazil. (About ten species and subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF CAMPTOSTOMA.

a. Under parts pale grayish or pale olive-grayish anteriorly, whitish or yellowish white posteriorly; wing-bands broader, cinnamomeous or light brownish in adults.

b. Pileum darker olive than back, more distinctly crested; wing-bands much less sharply defined; under wing-coverts primrose or pale straw yellow. (Southwestern border of United States to southern Mexico.)

Camptostoma imberbe (p. 414).

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bb. Pileum not darker than back, slate-grayish instead of olive; wing-bands very sharply defined; under wing-coverts light buff or buff-yellow. (Eastern and southern Brazil.)..... **Camptostoma obsoletum** (extralimital) [a]

aa. Under parts distinctly light yellowish; wing-bands narrower, pale yellow or yellowish white. (*Camptostoma pusillum.*)

b. Under parts less strongly yellow; smaller (male averaging: wing 50.7, tail 36.2).

c. Upper parts lighter olive, with pileum olive or olive-brown. (Caribbean coast slope of Colombia.)..... **Camptostoma pusillum pusillum** (extralimital) [b]

cc. Upper parts darker olive, with pileum more sooty. (Venezuela and Trinidad to lower Amazon Valley.)..... **Camptostoma pusillum napæum** (extralimital) [c]

bb. Under parts more strongly yellow; larger (male averaging: wing 52.5, tail 38.4). (Panama and western Costa Rica.) ... **Camptostoma pusillum flaviventre** (p. 417)

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[a] *Muscicapa obsoleta* Temminck, Pl. Col., iii, 46 livr., May, 1824, pl. 275, fig. 1 (Brazil).—*Muscicapara obsoleta* D'Orbigny, Voy. Amer. Mérid., Ois., 1839, 328.—*E[lania] obsoleta* Hartlaub, Syst. Verz., 1844, 53.—*Elania obsoleta* Lichtenstein, Verz. Mus. Brem., 1854, 53.—*Elainea obsoleta* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 480.—*Tyrannulus obseletus* Temminck, Tabl. Méth., 1838, 27.—*M[yiopatis] obsoleta* Cabanis and Heine, Mus. Hein., ii, 1859, 58, footnote.—*Eupsilostoma obsoletum* Sclater, Cat. Am. Birds, 1862, 215.—*Ornithion obsoletum* Sclater, Proc. Zool. Soc. Lond., 1873, 578 (Saõ Paulo, Paraná, and Goyaz, s. Brazil); Cat. Birds Brit. Mus., xiv, 1888, 127 (Ypànema, s. e. Brazil).—*Hylophilus cinerascens* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 723 (Barra de Jucú, Brazil; type now in coll. Am. Mus. N. H.).—*Ornithion cinerascens* Allen, Bull. Am. Mus. N. H., ii, June 28, 1889, 148, 231 (crit.); iv, 1892, 334 (Chapada, Mattogrosso, crit.).—*Elaenea murina* (not *Platyrhynchus murinus* Spix) Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 481.—*Renggerornis leucophthalmus* Bertoni, Aves Nueves del Paraguay, Jan., 1901, 130 (Puerto Bertoni, Paraguay; see Lynch-Arribalzaga, An. Mus. Nac. Buenos Aires, vii, 1902, 166).

[b] *M[yiopatis] pusilla* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 58, footnote (Cartagena, Colombia; coll. Berlin Mus.).—*Ornithion pusillum* Sclater, Proc. Zool. Soc. Lond., 1873, 577, part (monogr.); Cat. Birds Brit. Mus., xiv, 1888, 126, part (Bogota, Colombia); Bangs, Proc. Biol. Soc. Wash., xii, 1898, 136 (Santa Marta, Colombia); Allen, Bull. Am. Mus. N. H., xiii, 1900, 148 (Bonda, Santa Marta).—(?) *Ornithion imberbe* (not *Camptostoma imberbe* Sclater?) Berlepsch, Journ. für Orn., 1884, 301 (Bucaramanga, n. Colombia; crit.).

[c] *Camptostoma imberbe* (not of Sclater) Taylor, Ibis, 1864, 86 (Trinidad; crit.).—*Myiopatis pusilla* (not of Cabanis and Heine) Léotaud, Ois. Trinidad, 1866, 234.—*Ornithion pusillum* Sclater, Proc. Zool. Soc. Lond., 1873, 577, part (Mexiana, lower Amazon; Guiana; Trinidad); Cat. Birds Brit. Mus., xiv, 1888, 126, part (Venezuela; Trinidad; British Guiana; Surinam; Cayenne; Mexiana; Pará; Bahia?); Salvin, Ibis, 1885, 294 (British Guiana); Allen, Bull. Am. Mus. N. H., iv, 1892, 54 (Carúpano, Venezuela; crit.); Chapman, Bull. Am. Mus. N. H., vi, 1894, 38 (Trinidad; notes); Berlepsch and Hartert, Novit. Zool., ix, 1902, 42 (Suapure, Altagracia, Caicara, etc., Venezuela, crit.).—*Camptostoma flaviventre* (not of Sclater and Salvin, 1864) Sclater and Salvin; Proc. Zool. Soc. Lond., 1867, 577 (Mexiana).—*Ornithion napæum* Ridgway, Proc. U. S. Nat. Mus., x, sig. 33, Aug. 6, 1888, 520 (Diamantina, lower Amazon Valley; coll. U. S. Nat. Mus.); Chapman, Auk, vii, 1890, 270 (Santarem).

Besides these, three related forms have been described, as follows:

Camptostoma [pusillum ?] sclateri (Berlepsch and Taczanowski).

Eupsilostoma pusillum (not *Myiopatis pusilla* Cabanis and Heine) Sclater, Proc. Zool. Soc. Lond., 1860, 68 (Pallatanga, w. Ecuador; coll. P. L. Sclater), 283 (Babahoyo, w. Ecuador); Cat. Am. Birds, 1862, 215 (Pallatanga and Babahoyo, w. Ecuador); Proc.

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CAMPTOSTOMA IMBERBE Sclater.

BEARDLESS FLYCATCHER.

Adults in spring and summer (sexes alike).[a]—Pileum grayish olive, the feathers more or less distinctly darker (sometimes sooty) medially, forming indistinct streaks; hindneck, back, scapulars, lesser wing-coverts, rump, and upper tail coverts plain grayish olive, slightly more olivaceous than general color of pileum; tail dusky brownish gray or grayish brown, with grayish olive edgings, the rectrices narrowly margined with paler at tip; wings dusky, the middle and greater coverts broadly (but not abruptly) tipped with light grayish brown or grayish olive, the remiges (except basal portion of secondaries) narrowly edged with very pale olive or olive-whitish; sides of head grayish olive or olive-grayish, the eyelids and supraloral region paler; chin, throat, and chest pale grayish, faintly tinged with pale buffy yellowish, the rest of under parts dull yellowish white; axillars and under wing-coverts similar but more decidedly yellowish; bill dark horn color, darker

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Zool. Soc. Lond., 1867, 342 (Lima, Peru; habits); Taczanowski, Proc. Zool. Soc. Lond., 1874, 536 (Lima); 1877, 325; Lawrence, Ann. Lyc. N. Y., ix, 1869, 236 (Puna I., w. Ecuador).—*Ornithion pusillum* Taczanowski, Proc. Zool. Soc. Lond., 1879, 234 (Pacasmayo, n. w. Peru).—*Ornithion imberbe* (not *Camptostoma imberbe* Sclater) Taczanowski, Proc. Zool. Soc. Lond., 1879, 234 (Guajango, Peru), 1880, 202 (Callacate, n. Peru), 1882, 19 (Chirimoto, Peru); (?) Salvin, Cat. Strickland Coll., 1882, 307 (Chili ?; crit.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 126, part (Pallatanga and Santa Rita, w. Ecuador; Lima and Guajango, Peru).—*Ornithion sclateri* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 554 (Guayaquil, w. Ecuador), 1884, 296 (Cayandeled, w. Ecuador); Reichenow and Schalow, Journ. für Orn., 1886, 88 (reprint); Salvadori and Festa, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 7 (Savana de Guayaquil, Balzar, etc., w. Ecuador; synonymy).—*Ornithion imberbe sclateri* Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1883, 380 (Lima, Peru; crit.).

Camptostomum pusillum olivaceum (Berlepsch).

Camptostoma flaviventre (not of Sclater and Salvin, 1864) Sclater and Salvin, Proc. Zool. Soc. Lond., 1866, 188 (Upper Ucayali, e. Peru; crit.).—*Ornithion pusillum* (not *Myiopatis pusilla* Cabanis and Heine) Sclater and Salvin, Proc. Zool. Soc. Lond., 1873, 278 (Upper Ucayali; crit.).—*Ornithion pusillum* (?) Taczanowski, Orn. du Pérou, ii, 1884, 255.—*Ornithion pusillum olivaceum* Berlepsch, Journ. für Orn., xxxvii, no. 187, July, 1889, 301, in text (Yquitos, e. Peru; coll. Count von Berlepsch).—[*Ornithion*] *olivaceum* Sharpe, Hand-list, iii, 1901, 120.

Camptostoma pusillum juruanum (Ihering).

Ornithion pusillum juruanum Ihering, Rev. Mus. Paulista, vi, 1904, 434 (Rio Jurua, Province São Paulo, s. Brazil; coll. Mus. São Paulo).

[a] As a rule I am unable to distinguish the sexes by any external characters; but some males have the feathers of the pileum much longer, especially on the occiput, forming a very distinct crest, and these elongated feathers are sooty in color, margined with grayish olive. It may be that those males resembling females in the color and development of the crest feathers are immature birds.

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terminally, the mandible paler; iris brown; legs and feet blackish (in dried skins).

Adults in autumn and winter.—Similar to the spring and summer dress, but general color of upper parts more decidedly olivaceous, and under parts more strongly tinged with pale olive-yellowish.

Young.—Essentially like adults, but general color of upper parts nearly hair brown, the pileum concolor with back, etc., and the wing-bands and edges of remiges wood brown or cinnamon.

Adult male.—Length (skins), 92–110 (97); wing, 50.5–58.5 (51.9); tail, 37.5–48.5 (41); exposed culmen, 8–9.5 (8.6); tarsus, 13.5–15.5 (14.2); middle toe, 7.5–9 (8.2).[a]

Adult female.—Length (skins), 91–103 (95.4); wing, 46.5–55 (51.2); tail, 33–44 (37.4); exposed culmen, 7.5-9.5 (8.6); tarsus, 12.5–15.5; (14.2); middle toe, 8–8.5 (8.2).[b]

Southwestern border of United States, in southern Texas (Lomita Ranch; Hidalgo; Rio Corono; Grancano) and southern Arizona (Tucson; Santa Rita Mountains), southward through Mexico and Guatemala to western Nicaragua (Realejo).[c] [Tamaulipas: Victoria, Alta

[a] Twenty-four specimens.

[b] Twenty-one specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from southern Texas	54.2	42.5	8.1	14.1	8
Ten adult males from Tamaulipas	54.1	43.1	8.4	14.6	8.2
Five adult males from Vera Cruz (2), Puebla (1), Morelos (1), and Tabasco (1)	53.7	43.1	8.4	14.6	8.3
Two adult males from Sinaloa	53.5	41.2	8.5	14.5	8.2
One adult male from Tres Marias Islands	54	43.5	8.5	14	8
Six adult males from Sonora and southern Arizona	55.5	44.5	9	14.6	8.7
FEMALES.					
Three adult females from southern Texas	50.6	39	8.5	14	8
Three adult females from Tamaulipas (2) and Nuevo Leon (1)	52.2	40	8.3	14.8	8.2
Four adult females from Puebla (1), Oaxaca (1), and Tabasco (2)	51.4	40	8.4	14.4	8.1
One adult female from Cozumel Island	47.5	38.5	8.5	15	8.5
Four adult females from Jalisco (1), Michoacan (1), Tepic (1) and Sinaloa (1)	50	37.2	8.2	13.4	8.2
One adult female from Tres Marias Islands	51.5	40.5	8	13.5	8
Five adult females from Sonora (3), Chihuahua (1), and southern Arizona (1)	52.3	38	9	14.6	8.4

I am not able to appreciate any constant difference of coloration or measurements coincident with geographic area.

[c] To what species and form of this genus certain citations of *Ornithion* (or *Camptostoma*) *imberbe* from South American localities refer I am unable, from lack of specimens, to determine, but it is scarcely possible they can represent the present form. See Berlepsch, Journ. für Orn., 1884, 301 (Bucaramanga, n. Colombia); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 126, 127 (Bahia, Lagoa Santa, etc., Brazil); Ihering, Aves de S. Paulo, 1899, 192 (Iguape, S. Paulo).

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Mira, Rio Ribon, Soto la Marina, Jaumave. Nuevo Leon: Montemorelos, Santa Catarina, Rio San Juan. Chihuahua: Hacienda San Rafael. Sonora: Alamos. Sinaloa: Mazatlan, Culiacan, Rosario, Presidio. Tepic: San Blas, Tres Marias Islands. Jalisco: Etzatlan. Michoacan: Ahuacana, Huingo. Morelos: Puente de Ixtla. Puebla: Tehuacan; Vera Cruz: Tlalcotalpan, San Andreas Tuxtla. Oaxaca: Oaxaca City, Santa Efigenia. Tabasco: Frontera. Yucatan: Merida, Cozumel Island. Chiapas: Gineta Mountains, Huehuetan, Tonalá, San Bartolomé. Guatemala: Escuintla. Honduras (according to Sclater). Nicaragua: Realejo.]

Camptostoma imberbe SCLATER, Proc. Zool. Soc. Lond., 1857, 203 (San Andreas Tuxtla, Vera Cruz, s. e. Mexico; coll. P. L. Sclater); Ibis, 1859, 444, pl. 14, fig. 1 (San Andreas Tuxtla; crit.); Cat. Am. Birds, 1862, 215.—SALVIN and SCLATER, Ibis, 1860, 400 (Escuintla, Guatemala).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 201 (Yucatan); Mem. Bost. Soc. N. H., ii, 1874, 286 (Mazatlan, Sinaloa; San Blas, Tepic).—SALVIN, Ibis, 1872, 313 (Realejo, Nicaragua).

[*Elainia*] *imberbe* GRAY, Hand-list, i, 1869, 356, no. 5406.

Ornithion imberbe LAWRENCE, Ibis, 1876, 497, in text (crit.).—COUES and SENNETT Bull. U. S. Geol and Geog. Surv. Terr., v., 1879, 406 (Lomita, Texas).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 90 (Lomita).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 472.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 126, part (excl. South American localities and references).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 30, part (excl. South American localities and references).—SALVIN, Ibis, 1889, 359 (Cozumel I.).—NELSON, North Am. Fauna, no. 14, 1899, 49 (Tres Marias Islands; habits; crit.).

O[rnithion] imberbe RIDGWAY, Man. N. Am. Birds, 1887, 346.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 534.

[*Ornithion*] *imberbe* SHARPE, Hand-list, iii, 1901, 120.

Ornithium imberbe COUES, Check List, 2d ed., 1882, no. 393.

O[rnithium] imberbe COUES, Key N. Am. Birds, 2d ed., 1884, 444.

Ornithion incanescens (not *Muscipeta incanescens* Maximilian) SCLATER, Proc. Zool. Soc. Lond., 1873, 577, part (Mexico; Guatemala; Nicaragua; monogr.).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Santa Efigenia, Oaxaca).—BREWER, Ibis, 1878, 488 (Rio Grande, Texas).—COUES, The Country, 1878, 184 (Lomita, Texas).

[*Ornithion*] *incanescens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48, part.

Ornithium imberbe ridgwayi BREWSTER, Bull. Nutt. Orn. Club, vii, Oct., 1882, 208 (Tucson, Arizona; coll. W. Brewster).

Ornithium ridgwayi REICHENOW and SCHALOW, Journ. für Orn., 1884, 385 (reprint orig. descr.).

Ornithion imberbe ridgwayi AMERICAN ORNITHOLOGISTS' UNION Check List, 1886, no. 472*a*.

O[rnithion] imberbe ridgwayi RIDGWAY, Man. N. Am. Birds., 1887, 346.

O[rnithion] i[mberbe] ridgwayi COUES, Key N. Am. Birds, 5th ed., i, 1903, 534.

[*Ornithion*] *ridgwayi* SHARPE, Hand-list, iii, 1901, 120.

Ornithion i[mberbe] ridgwayi SWARTH, Condor, vii, 1905, 47 (Santa Rita Mts., Arizona; habits).

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CAMPTOSTOMA PUSILLUM FLAVIVENTRE (Sclater and Salvin).

YELLOW-BELLIED CAMPTOSTOMA.

Similar to *C. p. pusillum*[a] but yellow of under parts deeper and much clearer, with little if any gray shading on throat or olive on chest; the upper parts lighter olive, and size averaging decidedly greater.

Adults (*sexes alike*).—Pileum varying from deep hair brown or sepia to dark grayish brown or sooty; back, scapulars, and lesser wing-coverts plain light greenish olive, the rump and upper tail-coverts similar but paler and slightly more yellowish; tail deep olive or dusky hair brown, the rectrices narrowly tipped with pale brownish buffy or dull brownish white and edged with light olive; wings dusky, the middle and greater coverts broadly tipped with pale yellowish olive or dull whitish, forming two conspicuous bands, the secondaries edged (except basally) with the same (or a more yellowish hue), more broadly on the innermost, on which the pale edging extends round the tip; sides of head olive-grayish relieved by an indistinct narrow superciliary streak of dull whitish, the eyelids also dull whitish, the auricular region with fine shaft-streaks of the same; chin and upper throat dull white, the remaining under parts, including under wing-coverts, light yellow (straw to primrose) very faintly shaded on chest with pale olive; inner webs of remiges edged with pale cream-yellow or creamy white; maxilla dark brown or brownish black, mandible paler brown, darker terminally; iris brown; legs and feet dusky (in dried skins).

Young.—Essentially like adults, but middle and greater wing-coverts broadly tipped with cinnamon instead of pale yellowish olive.

Adult male.—Length (skins), 79–101 (96); wing, 48.5–56 (52.5); tail, 35–42.5 (38.4); exposed culmen, 8–9.5 (8.8); tarsus, 13–14.5 (13.8); middle toe, 8–9 (8.4).[b]

Adult female.—Length (skins), 88–97 (92); wing, 47.5–51.5 (49.2); tail, 33.5–38.5 (35.1); exposed culmen, 8.5–9 (8.6); tarsus, 12–14.5 (13.5); middle toe, 8–8.5 (8.2).[c]

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[a] See p. 413.

[b] Fifteen specimens.

[c] Eight specimens.

Specimens from different geographic areas compare as follows in measurements:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Costa Rica	52.3	(40.5)	8.5	13.7	8.2
Four adult males from Panama	50.6	37.1	8.5	14.1	8.7
Five adult males from San Miguel Island, Bay of Panama	52.5	38.7	9	13.7	8.4
Two adult males from Saboga Island, Bay of Panama	54.5	40.2	9	13.5	8
One adult male from Pacheca Island, Bay of Panama	56.5	44	9	13.5	8
Three adult males of *C. p. napæum* (Venezuela and Trinidad)	50.7	36.2	8.5	14.2	8.2

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Panama (Lion Hill Station; Panama City; Natá-Coclé; Divala; Bogaba; San Miguel Island; Saboga Island; Pacheca Island) and Pacific coast district of Costa Rica (Pozo Azul de Pirris; Pigres; Bebedero).

Camptostoma flaviventre SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864 (pub. Oct. 1), 358 (Panama; coll. Salvin and Godman).—SALVIN, Proc. Zool. Soc. Lond., 1870, 197 (Bogaba, Panama; crit.).

[*Elainia*] *flaviventre* GRAY, Hand-list, i, 1869, 356, no. 5407.

Ornithion pusillum flaviventre THAYER and BANGS, Bull. Mus. Com. Zool., xlvi, Sept., 1905, 151, in text (Panama).

Camptostoma imberbe (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473 (Panama).

(?) *Ornithion imberbe*? CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 535 (Costa Rica).

Ornithion pusillum (not *Myiopatis pusilla* Cabanis and Heine) SCLATER, Proc. Zool. Soc. Lond., 1873, 577, part (Chiriqui; Panama); Cat. Birds Brit. Mus., xiv, 1888, 126, part (Bogaba; Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 30, part (Bogaba and Lion Hill Station, Panama).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 151 (San Miguel, Saboga, and Pacheca islands, Bay of Panama; crit.); xlvi, 1906, 218 (Sabana de Panama).

[*Ornithion*] *pusillum* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48, part.

Ornithion pusillum subflavum CHERRIE, Proc. U. S. Nat. Mus., xv, no. 888, Mar. 25, 1892, 28 (Pozo Azul de Pirris, s. w. Costa Rica; coll. U. S. Nat. Mus.).

[*Ornithion*] *sub-flavum* SHARPE, Hand-list, iii, 1901, 120.

Genus SUBLEGATUS Sclater and Salvin.

Sublegatus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 172. (Type, *S. glaber* Sclater and Salvin.)

Rather small Tyrannidæ (wing about 65–75 mm.) with very short and relatively thick bill (its width at frontal antiæ much more than half the length of exposed culmen), tarsus nearly if not quite twice as long as middle toe without claw, and dull coloration (plain brownish

[a] Eight specimens—Continued.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
FEMALES.					
Two adult females from Costa Rica	48	33.7	8.5	13.3	8.3
Three adult females from Panama	50	36	8.5	13.8	8.2
Two adult females from San Miguel Island	50	36	8.7	13.2	8.5
One adult female from Saboga Island	47.5	33.5	9	13.5	8
Four adult females of *C. p. pusillum* (Santa Marta, Colombia)	45.7	33.9	8.7	13.6	7.9
Nine adult females of *C. p. napæum* (Trinidad, Venezuela, and lower Amazon)	47.6	30.5	8.4	13.2	8.1

Besides averaging larger than mainland specimens, those from the islands in the Bay of Panama average paler yellow below; the difference is by no means constant, however, some of them being quite as brightly colored as those from the mainland.

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gray or partly olive-green above, the wings dusky with two whitish bands, no white or yellowish spot on crown, under parts pale gray anteriorly, pale yellowish posteriorly).

Bill half as long as head, or less, thick, relatively broad at base, its width at frontal antiæ much more than half the length of exposed culmen, much greater (sometimes nearly twice) its depth at same point; exposed culmen equal to middle toe without claw (*S. glaber*) or decidedly shorter (*S. griseocularis*), distinctly (*S. glaber*) or indistinctly (in *S. griseocularis*) ridged, straight basally, gradually decurved terminally, the tip of maxilla slightly uncinate (*S. glaber*) or barely so (*S. griseocularis*); gonys a little longer than mandibular rami (*S. glaber*) or just as long (*S. griseocularis*), slightly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, large, broadly oval or nearly circular, nonoperculate. Rictal bristles obvious but small, the feathers of chin and frontal antiæ with distinct bristly points. Wing moderate, rather pointed, the longest primaries exceeding secondaries by more than length of exposed culmen; seventh and eighth primaries longest, the sixth and ninth but little shorter, the tenth (outermost) equal to second or fourth. Tail nearly as long as wing, slightly rounded. Tarsus a little more than one-fourth as long as wing, its scutellation distinct, typically exaspidean; middle toe, without claw, half as long as tarsus or slightly more, its basal phalanx wholly united to outer toe, about half united to inner toe; outer toe, without claw, reaching to or slightly beyond middle of subterminal phalanx of middle toe, the inner slightly shorter; hallux about as long as inner toe, stouter, its claw shorter than the digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Above plain brownish gray, or partly olive-green, without any concealed white or other color on crown; wings more dusky with paler edgings, the middle and greater coverts broadly tipped with dull whitish; under parts pale grayish anteriorly, pale yellow posteriorly.

Nidification.—(Unknown?)

Range.—Costa Rica (Pacific side) to southern Peru, Argentina, and southeastern Brazil. (Five species.)

KEY TO THE SPECIES OF SUBLEGATUS.

a. Larger (wing 65–78 mm.); pileum dusky, or else brownish gray concolor with back.
  b. Pileum dusky or blackish. (Western Costa Rica.)..**Sublegatus arenarum** (p. 420)
  bb. Pileum grayish brown (hair brown), concolor with back or very slightly less olivaceous.
    c. Bill much larger (exposed culmen 9.5–12); wing-bands less sharply defined, usually darker; under parts of body brighter yellow. (Panama to Trinidad and Venezuela.).....**Sublegatus glaber** (p. 421)

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cc. Bill much smaller (exposed culmen 6.5–8); wing-bands more sharply defined, usually paler; under parts of body paler yellow. (Colombia to southeastern Peru, northern Argentina, and Paraguay.) **Sublegatus fasciatus** (extralimital)[a]

aa. Smaller (wing less than 60 mm.); pileum and hindneck brownish gray, in contrast with olive-green of back. (Southwestern Brazil.)

Sublegatus virescens (extralimital).[b]

SUBLEGATUS ARENARUM (Salvin).

PUNTA ARENAS FLYCATCHER.

Adult.—Brownish olive, the pileum, wings, and tail more dusky; throat and breast gray, the former slightly paler; whole abdomen, crissum, and under wing-coverts yellow; inner secondaries margined externally with brownish white; wing-coverts tipped with spots of brownish white; bill and feet black; length 5.6 [in., = 142 + mm.],

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[a] *Pipra fasciata* Thunberg, Mém. Acad. Imp. Sci. St. Pétersb., viii, 1822.—*Sublegatus fasciatus* Lönnberg, Ibis, April, 1903, 241, in text (crit.); Berlepsch and Hellmayr, Journ. für Orn., 1905, 4.—*Muscipeta brevirostris* D'Orbigny and Lafresnaye, Mag. de Zool., 1837 (Synopsis Avium, i, p. 49 (Corrientes, Paraguay; coll. Paris Museum).—*Elænia brevirostris* Tschudi, Wiegmann's Archiv. für Naturg., x, pt. i, 1844, 274 (Peru); Fauna Peruana, Aves, 1845, 159.—*E[mpidagra] brevirostris* Cabanis and Heine, Mus. Hein., ii, 1859, 59.—*Sublegatus brevirostris* Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1896, 365 (centr. Peru).—*Phyllomyias semifuscus* (not *P. semifusca* Sclater) Pelzeln, Orn. Bras., ii. Abth., 1869, 105 (Goiaz and Cajútuba, Brazil).—*Phyllomyias modesta* Reinhardt, Vid. Med. Kjøbenh., 1870, 348 (Minas Geraes, Brazil; coll. Copenhagen Mus.).—*Phyllomyias platyrhyncha* Sclater and Salvin, Nom. Av. Neotr., 1873, 159 (Goiaz, Brazil; coll. P. L. Sclater).—*Sublegatus incanescens* (not *Muscipeta incanescens* Maximilian?) Salvin and Godman, Ibis, 1880, 124 (Minca, Santa Marta, Colombia; crit.).—[*Sublegatus*] *murinus* (not *Platyrhynchus murinus* Spix) Sclater and Salvin, Nom. Av. Neotr., 1873, 49.—*Sublegatus platyrhynchus* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 158; Berlepsch and Leverkuhn, Ornis, vi, 1890, 14 (Mattogrosso, Brazil); Ihering, Rev. Mus. Paulista, iii, 1898, 195 (Iguapé, Sao Paulo).—*S[ublegatus] glaber platyrhynchus* Berlepsch, Journ. für Orn., Jan., 1892, 84, in text.—*Sublegatus griseocularis* Sclater and Salvin, Proc. Zool. Soc. Lond., 1876, 17 (Maranura, Santa Ana Valley, s. Peru, 4,000 ft.; coll. P. L. Sclater); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 158; Berlepsch, Journ. für Orn., 1887, 131 (Mendoza and s. Peru).

The above synonomy is chiefly from a paper by Berlepsch and Hellmayr, in Journ. für Orn., 1905, 1–33. In the collection of the U. S. National Museum are specimens labeled *Myiopatis semifusca* which seem to belong to the present genus, but they certainly are not the species under consideration. The localities which they represent are La Guaira and Caracas, Venezuela, and Santa Marta, Colombia. They are much smaller than *S. fasciatus*, having the wing less than 60 mm., but like that species and *S. glaber* and unlike the equally small *S. virescens* have the pileum and back concolored (grayish brown).

[b] *Sublegatus virescens* Allen, Bull. Am. Mus. N. H., ii, June 28, 1889, 149 (Chapada, Mattogrosso, s. w. Brazil; coll. Am. Mus. N. H.).

A very distinct species, easily distinguished by its olive-green back in contrast with brownish gray pileum and hindneck.

The following species of this genus I have not seen:

Sublegatus frontalis Salvadori, Boll. Mus. Zool., etc., Torino, xii, May, 1897, 14 (Caiza, s. Bolivia; coll. Zool. Mus. Turin).

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wing 2.8 [71.12 mm.], tail 2.7 [68.6 mm.]. (Translation of original description.)[a]

Western Costa Rica (Punta Arenas).

Elaïnea arenarum SALVIN, Proc. Zool. Soc. Lond., 1863, 190 (Punta Arenas, w. Costa Rica; coll. Salvin and Godman).

[*Elainea*] *arenarum* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.

Elainea arenarum LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 112 (Punta Arenas).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 153.—SALVIN and GODMAN, Biol. Centr., Am., Aves, ii, 1888, pl. 36, fig. 3 (not text).—ALLEN, Bull. Am. Mus., N. H., ii, 1889, 208 (synonymy; crit.).—HARTERT, Novit. Zool., ix, 1902, 45, footnote (crit.).

Sublegatus arenarum SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 37, part (Punta Arenas, Costa Rica).—HARTERT, Novit. Zool., ix, 1902, 45, footnote (crit.).

[*Sublegatus*] *arenarum* SHARPE, Hand-list, iii, 1901, 125, part.

SUBLEGATUS GLABER Sclater and Salvin.

SMOOTH FLYCATCHER.

Adults (*sexes alike*).—Above plain grayish brown (deep hair brown), the pileum sometimes very slightly darker or browner, with feathers darker medially, producing very indistinct streaks; wings and tail dusky grayish brown with paler grayish brown edgings, the secondaries edged (except basally) with dull whitish, the middle and greater wing-coverts rather broadly tipped with the same or paler grayish brown; indistinct supraloral line and eyelids dull white; a dusky grayish loral spot immediately in front of eye; auricular and postocular regions similar in color to pileum and hindneck; suborbital and malar regions

[a] Doctor Sclater's description of the same specimen (Cat. Birds Brit. Mus., xiv, 153) is as follows:

Above dark cinereous with a slight olive tinge; head, wings, and tail blackish; outer margins of wing-coverts and secondaries and narrow tips of tail-feathers whitish; beneath, throat and breast pale cinereous white; belly and under wing-coverts pale sulphur-yellow; bill horn-color, feet blackish; whole length 5.5 inches, wing 2.7, tail 2.6.

Notwithstanding the conclusion of Messrs. Salvin and Godman (Biol. Centr.-Am., Aves, ii, 37) that this bird is the same as *Sublegatus glaber* Sclater and Salvin, there seems to be good reason for believing they are in error. Dr. J. A. Allen (Bull. Am. Mus. N. H., ii, 1889, 208) says:

"Respecting this, one may well be excused from venturing an opinion unless able to examine the type. While Mr. Sclater retains the species in *Elainea*, Mr. Salvin, the original describer, refers it to *Sublegatus*, and considers it not specifically different from *Sublegatus glaber* Scl. & Salv. *S. glaber* is figured in P. Z. S., 1868, pl. xiii, fig. 2, and *E. arenarum* in the "Biologia," pl. xxxvi, fig. 3. A comparison of the two plates, purporting to represent the same species, is enough to warn away the timid from any interference in such a complicated case. It is to be hoped, however, that some explanation will be given of how the same species can differ so greatly as these figures represent, in respect both to the form of the bill and coloration, particularly in the color of the loral region and the lower surface generally."

Dr. Ernst Hartert more recently says (Novit. Zool., ix, 1902, 45, footnote) they are *not* the same, and that in *S. arenarum* the pileum "is much darker, almost blackish."

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grayish white, transversely flecked or barred with grayish (these markings sometimes obsolete); chin and upper throat grayish white or very pale gray, gradually deepening into pale gray (about no. 10) on lower throat and chest; rest of under parts, including axillars and under wing-coverts, light sulphur or primrose yellow; bill dusky brown or brownish black; iris brown; legs and feet black.

Young.—Essentially like adults but pileum browner, the feathers narrowly margined terminally with whitish, and wing-markings more whitish and faintly tinged with yellow.

Adult male.—Length (skins), 123-147 (137); wing, 67.5–78 (72.1); tail, 60–72 (66.6); exposed culmen, 9.5–11.5 (10.8); tarsus, 17.5–20 (18.6); middle toe, 9–10 (9.3).[a]

Adult female.—Length (skins), 122–141 (132); wing, 65–73.5 (70.2); tail, 57–66.5 (62.3); exposed culmen, 10–12 (10.7); tarsus, 18–19 (18.6); middle toe, 9–10 (9.2).[b]

Panama (David; near Panama City; Saboga Island, San Miguel Island, and Rey Island, Bay of Panama), Colombia (Bonda, Santa Marta; Bogota), Venezuela (Caracas; Valencia; Ciudad Bolivar; Cumaná; Carúpano; Maripo; Caicara; Margarita Island), Trinidad (Monos Island), and islands of Curaçao, Bonaire, and Aruba.

Sublegatus glaber SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 171, 172, pl. 13, fig. 2 (Caracas, Venezuela; coll. P. L. Sclater).—WYATT, Ibis, 1871, 333 (Santa Marta, Colombia).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 159 (Caracas and Valencia, Venezuela; Bogota, Colombia.)—BERLEPSCH, Journ. für Orn., 1892, 84 (Curaçao).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 54 (Carúpano, Venezuela; crit.); xiii, 1900, 147 (Bonda, Santa Marta).—HARTERT, Ibis, 1893, 298 (Aruba), 318 (Curaçao, crit.), 328 (Bonaire); Novit. Zool., ix,

[a] Eighteen specimens.

[b] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Panama (mainland)	72	69.2	10.2	17.7	9.5
One adult male from Rey Island, Bay of Panama	70	63	11	19	9
Three adult males from Saboga Island	76.2	71.7	11.2	19.7	9.7
Five adult males from San Miguel Island	72.3	66.7	10.7	18.5	9.2
One adult male from Colombia (Santa Marta)	75	66	11	19	9
Four adult males from Venezuela	70	63.9	10.7	19.2	9.2
One adult male from Margarita Island, Venezuela	67.5	60	10.5	17.5	9
One adult male from Trinidad (Monos Island)	71	68.5	10.5	18.5	9.5
FEMALES.					
Three adult females from San Miguel Island	71	65	10.5	18.7	9
One adult female from Venezuela	65	57	12	18.5	10
One adult female from Margarita Island	67	63	10.5	19	9
One adult female from Trinidad (Monos Island)	66.5	59	10.5	18	9.5

I am not able to appreciate any color differences.

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1902, 300 (Aruba, Curaçao, and Bonaire).—CHAPMAN, Bull. Am. Mus. N. H., 1894, 39 (Monos I., Trinidad).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 673 (Margarita I., Venezuela).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 136 (Santa Marta).

[*Sublegatus*] *glaber* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.

Sublegatus brevirostris glaber BERLEPSCH and HARTERT, Novit. Zool., ix, Apr., 1902, 45 (Altagracia and Ciudad Bolivar, Venezuela).

Sublegatus fasciatus glaber BERLEPSCH and HELLMAYR, Journ. für Orn., Jan., 1905, 5, in text.

[*Elainia*] *glabra* GRAY, Hand-list, i, 1869, 353, no. 5364.

Empidonax atrirostris LAWRENCE, Proc. Ac. Nat. Sci. Phila., 1871 (pub. Dec. 5?), 234 (Venezuela?;[a] coll. G. N. Lawrence).

Sublegatus arenarum (not *Elainea arenarum* Salvin) BANGS, Auk, xviii, Jan., 1901, 30 (San Miguel I., Bay of Panama).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 152 (San Miguel and Saboga islands, Bay of Panama); xlvi, 1906, 218 (Sabana de Panama).

[*Sublegatus*] *arenarum* SHARPE, Hand-list, iii, 1901, 125, part.

Genus ELÆNIA Sundevall.

Elænia[b] SUNDEVALL, Svensk. vet.-Ak. Handl., 1835 (1836), 89. (Type, *Muscicapa pagana* Lichtenstein = *Pipra flavogaster* Thunberg.)

Elania (emendation) GRAY, List Gen. Birds, 1840, 33.

Elaenea (emendation) CABANIS, Wiegmann's Archiv. für Naturg., 1847, 250.

Elaïnia (emendation) REICHENBACH, Av. Syst. Nat., 1850, pl. lxv, fig.

Elaïnea (emendation) CABANIS and HEINE, Mus. Hein., ii, 1859, 59.

Elainia (emendation) SCLATER, Proc. Zool. Soc. Lond., 1859, 554.

Elainea (emendation) SCLATER, Proc. Zool. Soc. Lond., 1860, 313.

Elænea (emendation) ALLEN, Bull. Am. Mus. N. H., ii, 1889, 232.

Medium-sized to small Tyrannidæ (wing 65–95 mm.) of dull coloration, with bill small and narrow (exposed culmen shorter than middle toe without claw and at least twice as long as distance from nostril to tip of maxilla), and tarsus much less than twice as long as middle toe without claw.

Bill about half as long as head, or less, narrow, its width at frontal antiæ equal to not more than half the length of exposed culmen, and very much less than twice its depth at same point; exposed culmen shorter than middle toe without claw, distinctly (sometimes sharply) ridged, straight or very nearly so for greater part, moderately decurved terminally, the tip of maxilla minutely, or at least not strongly, uncinate; gonys equal to or slightly longer than mandibular rami, straight or faintly convex; maxillary tomium straight or faintly concave, distinctly notched subterminally. Nostril exposed, roundish or longitudinally oval, with distinct though rather narrow superior membrane, this sometimes inclosing the anterior margin also. Rictal bristles obvious but small, the feathers of chin and frontal antiæ with distinct bristle-like points. Wing rather long, the longest primaries exceeding

[a] The type-specimen is labeled "Cartagena."

[b] From *Ελαινος*, *oleagineus*.

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secondaries by at least length of middle toe without claw (usually more); seventh, eighth, sixth, seventh, and eighth, or seventh, eighth, and ninth primaries longest, the tenth (outermost) at least equal to third, sometimes equal to fifth. Tail nearly as long as wing, even, slightly emarginate or slightly double-rounded, the rectrices moderate in width, widening perceptibly toward tip. Tarsus usually a little less than one-fourth as long as wing (decidedly more than one-fourth as long in *E. fallax*), decidedly less than twice as long as middle toe without claw, its scutellation distinct, typically exaspidean; basal phalanx of middle toe united to outer toe for greater part (sometimes nearly the whole) of its length, to inner toe for about half its length; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe more or less (but sometimes very indistinctly) shorter; hallux rather shorter than inner toe but much stouter, its claw shorter than the digit; all the claws rather large, strongly curved, sharp, and compressed.

Coloration.—Above plain gray or olive, the crown sometimes with a concealed patch of white or yellowish white; wings dusky with pale edgings, the greater and middle coverts broadly tipped with dull whitish or pale olive, producing two distinct bands; under parts pale yellowish or whitish more or less strongly shaded (except in *E. fallax*) with olive or grayish on chest and sides (throat also sometimes pale olive or grayish).

Nidification.—Nest shallow cup-shaped or saucer-shaped, compact, ornamented externally with spiders' webs, lichens, etc., lined with feathers, hair, or other soft materials, placed in bushes or small trees. Eggs (usually 2) creamy white to deep cream color, spotted, chiefly round larger end, with reddish brown, etc.

Range.—Southern Mexico to southern Peru, Argentina, and southeastern Brazil; one species in Lesser Antilles (also one each on islands of Jamaica and Haiti, Greater Antilles, and one on the island of Fernando Noronha, off eastern Brazil).[a] (More than twenty species.[b])

The species of the genus *Elænia* are involved in the greatest confusion, and no genus of American birds is more in need of careful and thorough revision. Even the small number of forms belonging to the field of the present work has given me the greatest trouble, and I must confess that I am not satisfied with the manner in which I have been able to work them out, both the time and material necessary being wanting.

[a] I have not seen *E. ridleyana* Sharpe, of Fernando Noronha Island.

[b] Twenty-six species are given in vol. iii of Doctor Sharpe's "Hand-list." (1901; pp. 122–125). Some of these I have not seen and therefore can not be sure whether they really belong here.

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KEY TO THE SPECIES AND SUBSPECIES OF ELÆNIA.

a. Throat and chest grayish (not olivaceous or yellowish), in contrast with yellow or white of abdomen. (*Elænia martinica.*)

b. Under parts of body whitish. (Lesser Antilles, except islands south of St. Vincent; St. Thomas, Tortola, Virgin Gorda, Grand Cayman, Little Cayman and Cayman Brac, Greater Antilles; Cozumel, Mujeres, and Meco islands, Yucatan; Half Moon Cay, British Honduras; Old Providence and Curaçao islands, southern Caribbean Sea.).....**Elænia martinica martinica** (p. 426)

bb. Under parts of body yellow.

c. Yellow of under parts paler, olive of upper parts paler and (usually) grayer, and gray of chest darker and more tinged with olive. (Colombia, Venezuela, Trinidad, Tobago, and Guiana to southern Brazil.)
Elænia martinica flavogastra (extralimital).[a]

cc. Yellow of under parts deeper, olive of back darker and (usually) browner, and gray of chest paler or clearer. (Southeastern Mexico to Panama; St. Vincent and more southern Lesser Antilles.).....**Elænia martinica subpagana** (p. 429)

aa. Throat and chest more or less olivaceous or yellowish, not contrasting with color of abdomen.

b. Under wing-coverts pale creamy or buffy yellow; throat more grayish. (*Elænia chiriquensis.*)

c. Color of upper parts slightly paler and grayer; wings and tail averaging slightly longer, bill averaging slightly shorter (adult male with wing averaging 74.1, tail 60.9, exposed culmen 11.1). (Panama and Santa Marta district of Colombia and south to southern Brazil.).**Elænia chiriquensis chiriquensis** (p. 432)

cc. Color of upper parts slightly darker and more olivaceous; wing and tail averaging slightly shorter, bill averaging slightly longer (adult male with wing averaging 72.4, tail 60.1, exposed culmen 11.4). (San Miguel I., Bay of Panama.).....**Elænia chiriquensis sordidata** (p. 433)

bb. Under wing-coverts sulphur yellow; throat more yellowish.

c. Wing more than 73 mm.; chest uniform light olive. (*Elænia frantzii.*)

d. Color of upper parts lighter or clearer olive; under parts paler yellowish. (Guatemala to Panama.).....**Elænia frantzii frantzii** (p. 434)

dd. Color of upper parts darker and browner olive; under parts much deeper yellowish. (Northern Peru.)...**Elænia frantzii stolzmanni** (extralimital)[b]

cc. Wing not more than 70 mm.; throat more grayish.

d. Under parts more decidedly yellowish, without white on abdomen; crown with a distinct concealed patch of white.

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[a] *Pipra flavogaster* Thunberg, Mém. Acad. Imp. St. Petersb., viii, 1822, 286 (Brazil; type now in coll. Mus. Roy. Univ. Upsala; see Lönnberg, Ibis, 1903, 241, 242).—*Elainea flavogastra* Lönnberg, Ibis, 8th. ser., iii, April, 1903, 242.—*M[uscicapa] pagana* Lichtenstein, Verz. Doubl., 1823, 54 (Bahia, Brazil).—*Elainea pagana* Cabanis, in Schomburgk's Reise Brit. Guiana, iii, 1848, 701; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 137, part (excl. syns. *Elainea subpagana* and *E. chiriquensis*).—(?) *Muscicapa brevirostris* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 799 (Rio de Janeiro, Brazil; type now in coll. Am. Mus. N. H.).—(?) *Elainea semipagana* Sclater, Proc. Zool. Soc. Lond., 1861, 406 (Babahoyo, w. Ecuador; coll. P. L. Sclater).—*Myiobius martinicus* (not *Muscicapa martinica* Linnæus) Léotaud, Ois. Trinidad, 1866, 224.

[b] *Elænia frantzii stolzmannii* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 116 (Tambillo, northern Peru; coll. U. S. Nat. Mus.)

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e. Larger (wing of female 66–68.5, tail 61–65); back, etc., greenish olive, under parts brighter and clearer yellow. (Island of Jamaica.)
Elænia fallax (p. 436).

ee. Smaller (wing of female 61.5–64.5, tail 58.5–61.5); back, etc., grayish brown, under parts paler and more buffy yellow. (Island of Haiti.)
Elænia cherriei (p. 437).

dd. Under parts less decidedly yellowish, with abdomen white or yellowish white; crown without any white. (Sierra Nevada de Santa Marta, Colombia.) ..... **Elænia browni** (extralimital)[a]

ELÆNIA MARTINICA MARTINICA (Linnæus).

ANTILLEAN ELÆNIA.

Adults (*sexes alike*).—Above plain olive (varying from grayish olive or almost olive-gray to olive-brown), the elongated feathers of pileum darker mesially, producing indistinct streaks; postero-central portion of pileum with feathers white beneath the surface, forming a large, mostly concealed, patch; tail deep grayish brown or brownish gray, the rectrices edged with lighter brownish gray or olive; wings dusky, the middle and greater coverts broadly tipped with pale grayish brown or brownish gray, the secondaries edged (except basally) with very pale olive or whitish, the inner secondaries more broadly edged with white or whitish, the primaries and primary coverts narrowly edged with pale grayish brown, brownish gray, or olive; sides of head grayish olive or olive-grayish, gradually fading into pale gray or grayish white on chin and throat; lores pale grayish or grayish white; a narrow orbital ring of dull white; chest and sides of breast pale gray or brownish gray, gradually fading out on flanks; rest of under parts, including axillars and under wing-coverts, white, sometimes faintly tinged with pale yellow (the sides and flanks sometimes also faintly tinged with yellow or olive-greenish); maxilla brownish basally, dusky terminally; mandible pale brownish (in dried skins) with dusky tip; iris brown; legs and feet blackish (in dried skins).

Young.—Essentially like adults, but general color of upper parts more brownish and wing-bands buffy instead of brownish gray.

Adult male.—Length (skins), 141–167 (153); wing, 74.5–87.5 (78.2); tail, 57.5–80 (68.9); exposed culmen, 10–13.5 (12); tarsus, 18.5–22.5 (20.7); middle toe, 11.5–14 (12.5).[b]

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[a] *Elænia browni* Bangs, Proc. Biol. Soc. Wash., xii, Aug. 10, 1898, 158 (Puebla Vieja, Santa Marta, Colombia, 8,000 ft. alt.; coll. E. A. and O. Bangs), 175 (San Miguel, Santa Marta); Proc. New Engl. Zool. Club, i, 1899, 78 (San Sebastian and El Mamon, Santa Marta; crit.).—*Elænea browni* Allen, Bull. Am. Mus. N. H., xiii, 1900, 147 (El Lorenzo etc., Santa Marta).

[b] Forty-five specimens

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Adult female.—Length (skins), 128.5–162 (154); wing, 71–85 (77.2); tail, 61–74.5 (66.9); exposed culmen, 11–13.5 (12); tarsus, 18–22 (20.2); middle toe, 11.5–13.5 (12.3).[a]

Lesser Antilles, except those south of St. Vincent; some of the smaller Greater Antilles; islands of Cozumel and Mujeres and adjacent coast of mainland, Yucatan; islands of Old Providence and Curaçao, southern Caribbean Sea. [Greater Antilles: Grand Cayman; Cay-

[a] Forty-one specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two males from Cozumel Island	78.3	69.3	11.5	20.8	12.5
One male (*E. cinerescens*) from Old Providence Island	87	80	13.5	22	14
Six males from Grand Cayman	83.6	71.5	12.8	21.3	12.9
One male from Cayman Brac	87	77.5	13	21	12.5
One male from Saba	75	64.5	12	21	12
Six males from Barbuda	77.2	66.1	11.9	20.2	12
One male from St. Eustatius	75.5	62	11.5	19.5	12
One male from St. Christopher	78.5	61	11.5	20.5	12
Six males from Antigua	79.2	66.1	11.7	20.2	12.2
One male from Guadeloupe	80.5	69.5	12	19.5	12
Seven males from Dominica	82	71.6	12	20.8	12.5
One male from Santa Lucia	81	70.5	12	19.5	12.5
Five males from Barbados	81.9	72.1	13.3	22	13.6
Eight males from St. Vincent	78.7	66.9	12.1	20.6	12.4
FEMALES.					
Three females from Cozumel Island	77.3	69.3	11.3	20.2	12
Three females from Mujeres Island	75.7	65	11.7	19.8	12
One female from Old Providence	78.5	69.5	12	22	13
One female from Grand Cayman	84.5	74.5	13	20.5	13
Three females from Cayman Brac	77.7	67.8	12.7	19.5	12.5
One female from St. Thomas	71.5	62.5	11.5	19.5	11.5
One female from St. Eustatius	80	70.5	12	20.5	12
Five females from Antigua	74.8	65.1	11.9	19.9	12.1
One female from Barbuda	74	65	12	20.5	12.5
One female from Guadeloupe	75.5	64.5	11	19	12
Six females from Dominica	80.3	69.1	11.7	20.9	12.1
Five females from Barbados	79.5	70.7	13.1	21.4	13.2
Five females from St. Vincent	75.1	62.8	12	20	12.5

Notwithstanding the large number of specimens examined, so many of them are in poor condition of plumage and the series from the different islands so unequal, that a satisfactory comparison is impossible. Therefore, for the present, I can only "lump" all the more grayish West Indian birds, or rather those with the under parts whitish instead of yellow, under one name and leave for others who may be able to bring together a more satisfactory series the labor of determining whether the series can be divided into two or more recognizably different forms. If the birds from Barbados are separable, certainly those from some other islands are also; and I believe that eventually several forms will have to be recognized.

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man Brac; St. Thomas; Tortola; Virgin Gorda. Lesser Antilles: Anguilla; St. Bartholomew; St. Eustatius; St. Christopher; Barbuda; Antigua; Montserrat; Guadeloupe; Dominica; Martinique; Santa Lucia; St. Vincent;[a] Barbados.]

[*Muscicapa*] *martinica* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 325 (Martinique, Lesser Antilles; based on *Muscicapa martinicana cristata* Brisson, Orn., ii, 362, pl. 36, fig. 2).—GMELIN, Syst. Nat., i, 1788, 930.—LATHAM, Index Orn., i, 1790, 483.

M[*yiobius*] *martinicus* GRAY, Gen. Birds, i, 1846, 249.

[*Tyrannula*] *martinica* BONAPARTE, Consp. Av., i, 1850, 190.

Tyrannula martinica CASSIN, Proc. Ac. Nat. Sci. Phila., 1860, 375 (St. Thomas).

Elainea martinica TAYLOR, Ibis, 1864, 169 (Dominica).—SCLATER, Proc. Zool. Soc. Lond., 1871, 271 (Santa Lucia; crit.); 1874, 175 (Barbados); 1879, 765 (Montserrat); 1889, 326 (Dominica), 395 (Santa Lucia); 1892, 499 (Anguilla); Cat. Birds Brit. Mus., xiv., 1888, 141.—SEMPER, Proc. Zool. Soc. Lond., 1872, 650 (Santa Lucia).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 59 (Dominica; habits; crit.), 191 (St. Vincent); i, 1879, 357 (Martinique), 458 (Guadeloupe); iii, 1880, 256 (Dominica).—LISTER, Ibis, 1880, 41 (St. Vincent).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia).—GRISDALE, Ibis, 1882, 489 (Montserrat).—CORY, Ibis, 1886, 473 (St. Vincent), 474 (Marie Galante), 475 (Grand Terre).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 36 (Cozumel, Mujeres, and Meco islands, Yucatan; Half Moon Cay, British Honduras; Grand Cayman; Old Providence; etc.).—SALVIN, Ibis, 1889, 359 (Meco, Mujeres, and Cozumel islands, Yucatan; Half Moon Cay, British Honduras; crit.).—FEILDEN, Ibis, 1889, 486 (Barbados; habits).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 130 (Santa Lucia).—BERLEPSCH, Journ. für Orn., 1892, 85 (Curaçao; crit.).—NICOLL, Ibis, 1904, 558 (Barbados; crit.), 561 (Santa Lucia), 567 (Martinique), 572 (Montserrat), 574 (Antigua), 582 (Grand Cayman), 587 (Little Cayman).

[*Elainea*] *martinica* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 123.

Elainia martinica CORY, Auk, iii, 1886, 230 (synonymy and descr.); Birds West Ind., 1889, 117; Ibis, 1886, 472 (Barbados).

Elainea martinica? RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 571 (Cozumel I.; crit.); x, 1888, 574 (Grand Cayman).

[*Elainea pagana.*] Subsp. *martinica* ALLEN, Bull. Am. Mus. N. H., ii, Oct., 1889, 196 (synonymy).

Elainea pagana martinica ALLEN, Bull. Am. Mus. N. H., ii, Oct., 1889, 199 (crit.).—CORY, Cat. West Ind. Birds, 14, 109, 145, in text (Curaçao), 155 (St. Bartholomew).—VERRILL, Trans. Conn. Ac. Arts and Sci., viii, 1892, 337 (Dominica; habits; descr. nest and eggs).

Elænia flavogastra martinica RILEY, Smithsonian Misc. Coll., xlvii, no. 1485, Nov. 8, 1904, 288 (Barbuda; Antigua; crit.).

Elainea riisii SCLATER, Proc. Zool. Soc. Lond., 1860, 314 (St. Thomas, Greater Antilles; coll. P. L. Sclater); 1861, 406 (monogr.); Cat. Am. Birds, 1862, 217 (St. Thomas).—NEWTON, Ibis, 1860, 307 (St. Thomas).—SUNDEVALL. Oefv. K. Vet.-Ak. Förh., 1869, 584 (St. Thomas).

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[a] *E. m. subpagana* (?) also occurring on this island, but apparently a recent introduction.

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E[lainea] riisii SCLATER, Proc. Zool. Soc. Lond., 1870, 834 (crit.).

[*Elainia*] *riisii* GRAY, Hand-list, i, 1869, 352, no. 5327.

Elainea martinica riisii HARTERT, Ibis, 1893, 318 (Curaçao; crit.); Novit. Zool., ix, 1902, 300 (do.).

Elainea barbadensis CORY, Auk, v, Jan., 1888, 47 (Barbados, Lesser Antilles; coll. C. B. Cory), 158; Birds West Ind., 1889, 292; Cat. West Ind. Birds, 1892, 14, 109, 145 (Barbados).

E[lainea] barbadensis ALLEN, Bull. Am. Mus. N. H., ii, 1889, 200, in text (crit.).

[*Elainea*] *barbadensis* SHARPE, Hand-list, iii, 1901, 123.

(?) *Elainea cinerescens* RIDGWAY, Proc. U. S. Nat. Mus., vii, July 29, 1884, 180 (Old Providence I., Caribbean Sea; coll. U. S. Nat. Mus.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 136, footnote.

ELÆNIA MARTINICA SUBPAGANA (Sclater and Salvin).

NORTHERN ELÆNIA.

Similar to *E. m. martinica*, but under parts of body yellow instead of white and (usually) general coloration more olivaceous.

Adults (*sexes alike*).—Above plain olive, becoming slightly browner on rump and upper tail-coverts, the elongated feathers of pileum darker mesially, forming indistinct streaks, those in postero-central portion of the pileum with the concealed portion white, or yellowish white; tail deep grayish brown (hair brown or broccoli), the rectrices edged with lighter brown or olive; wings dusky, the greater and middle coverts broadly tipped with pale grayish brown (sometimes faintly buffy), the secondaries edged (except basally) with pale olive-yellowish, the inner secondaries (tertials) more broadly edged with dull whitish, the primaries and greater coverts narrowly edged with pale olive; sides of head grayish olive, gradually fading below into pale gray or grayish white on chin and throat; lores pale grayish or grayish white; a narrow orbital ring of dull white; chest and sides of breast pale yellowish gray, gradually fading out on flanks; rest of under parts, including axillars and under wing-coverts, light yellow (between sulphur and straw yellow); maxilla brownish basally, dusky terminally; mandible paler, with dusky tip; iris brown; legs and feet blackish (in dried skins).

Young.—Similar to adults but color of upper parts browner, the rump, upper tail-coverts, and edges of rectrices inclining to wood brown or russet; no white on pileum; wing-bands pale buff or buffy white; edges of secondaries buffy (varying from yellowish to brownish); yellow of under parts paler.

Adult male.—Length (skins), 137–173 (159); wing, 74–84.5 (79.9); tail, 63–77.5 (72.6); exposed culmen, 10.5–13 (11.8); tarsus, 19–22 (20.2); middle toe, 11–13.5 (12.3).[a]

[a] Thirty-nine specimens.

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Adult female.—Length (skins), 138–171 (156); wing, 73.5–84.5 (77.1); tail, 64–76.5 (70.1); exposed culmen, 10–12.5 (11.3); tarsus, 18.5–21 (19.6); middle toe, 11–13 (11.7).[a]

[a] Thirty specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
Continental localities (including islands in Bay of Panama).					
MALES.					
Two adult males from Vera Cruz	80.2	75.7	11.5	20.5	12.2
One adult male from Oaxaca	79	72.5	12	20.5	12.5
Two adult males from Tabasco	81.7	75.5	11.5	20.7	13.2
One adult male from Yucatan	80.5	75	10	19.5	12.5
Two adult males from Chiapas	76.2	70.7	11.2	20.7	12.5
Three adult males from Honduras	80	73.3	11.5	20.7	12.2
Ten adult males from Nicaragua (1) and Costa Rica (9)	80.1	72.2	11.8	20.5	12.3
Nine adult males from Panama	79.7	72.4	11.8	19.8	12
Four adult males from Saboga Island, Bay of Panama	81.1	72.2	12.2	20.5	12.5
Six adult males from San Miguel Island, Bay of Panama	80	71.4	12.2	19.7	12.2
Three adult males of *E. m. flavogastra* from Trinidad	81.6	71	11.7	20.5	12.2
FEMALES.					
Three adult females from Vera Cruz	78.3	71.8	10.5	19.8	12.2
One adult female from Tabasco	76	69	11	20	12
One adult female from Chiapas	74.5	68.5	11	20.5	12
Two adult females from Honduras	79	72.5	11	20	12.3
Eight adult females from Nicaragua (3) and Costa Rica (5)	78.8	70.9	11.3	20.1	11.9
Ten adult females from Panama	75.7	69.2	11.2	19.2	11.2
Three adult females from Saboga Island	77.2	70.3	12	19.7	11.8
One adult female from San Miguel Island	79	73.5	12	19.5	11
One adult female of *E. m. flavogastra* from Colombia (Santa Marta)	76	66.5	10.5	20	11.5
Lesser Antillean localities.					
MALES.					
One adult male from Bequia	83	77.5	12	19	12
One adult male from Unión Island	77	69	12	19	11.5
One adult male from Petit Martinique	74.5	62	12	20	12
Four adult males from Mustique	80.2	71.6	12	20.3	12
Four adult males from Carriacou	78.3	69.8	12.4	20	12.4
One adult male from Grenada	81.5	73	12	20.4	12.5
FEMALES.					
Four adult females from St. Vincent	77.8	68.4	11.2	20.2	12.1
Two adult females from Carriacou	77.8	67	12.3	20.5	12
Nine adult females from Grenada	79.2	71.1	11.7	20.1	12
Thirty-nine males from continental localities	79.9	72.6	11.8	20.2	12.3
Fifteen males from Lesser Antilles	79.6	71.1	12.1	20	12.2
Thirty females from continental localities	77.1	70.1	11.3	19.6	11.7
Fifteen females from Lesser Antilles	78.6	69.8	11.8	20.2	12

I am not able to separate the Antillean from the continental series, but they are mostly in worn or otherwise poor plumage, so that satisfactory comparison can not be made; but they certainly are not the same as *E. m. flavogastra* of South America, to which they have been referred.

Most of the specimens from Saboga Island, Bay of Panama, and some specimens from the vicinity of Panama City have the color of the upper parts paler and very much grayer than others, even more so than *E. m. flavogastra*, and it is possible they may represent a form worthy of recognition.

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Southern Mexico, in States of Vera Cruz (Orizaba; Pasa Nueva; Tlalcotalpan; Mirador; Jaltipan), Oaxaca (Tuxtepec), Mexico (near Mexico City), Tabasco (Teapa), Yucatan (Peto; Tizimin; La Vega; Puerto Morelos; Cozumel Island), and Chiapas (Palenque; Ocuilapa; Yajalon), southward through Guatemala (Dueñas; Sakluk, near Peten), Honduras (San Pedro Sula; Truxillo; Ceiba), Nicaragua (Greytown; Rio Escondido) and Costa Rica (San José; Irazú; Pigres) to Panama (Volcan de Chiriqui, Boquete, Chitra, Calovevora, Santa Fé, David, Divala, Loma del Leon, Paraiso Station; near Panama City; San Miguel Island; Saboga Island). Also, apparently, more southern Lesser Antilles (St. Vincent, Bequia, Union Island, Petit Martinique, Mustique, Carriacou, and Grenada), although these island birds may possibly be found separable.

Elainea subpagana SCLATER, Ibis, Jan., 1860, 36 (Dueñas, Guatemala; coll. Salvin and Godman; habits, by O. Salvin); Proc. Zool. Soc. Lond., 1861, 406 (monogr.); 1862, 369 (Mexico).—LAWRENCE, Ann. Lyc. N. Y., vii, 1861, 328 (Isthmus of Panama); viii, 1867, 176 (David, Panama); ix, 1868, 112 (San José, Costa Rica).—CABANIS, Journ. für Orn., 1861, 244 (Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama; crit.).—SALVIN, Ibis, 1864, 380 (cays off coast British Honduras); Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé and David, Panama); 1870, 197 (Chitra, Panama).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).

[*Elainea*] *subpagana* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 142 (Dueñas).

[*Elainea pagana.*] Subsp. *subpagana* ALLEN, Bull. Am. Mus. N. H., ii, Oct., 1889, 196 (synonymy).

Elainea pagana subpagana CHERRIE, Auk, ix, July, 1892, 250 (San José, Costa Rica).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 505 (Greytown and Rio Escondido, Nicaragua; habits).—ALLEN, Bull. Am. Mus. N. H., ii, 1898, 198 (crit.).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 151 (San Miguel and Saboga islands, Bay of Panama; crit.); xlvi, 1906, 218 (Sabana de Panama).

Elanea pagana subpagana BANGS, Proc. New Engl. Zool. Club, ii, 1900, 21 (Loma del Leon, Panama).

Elænia pagana subpagana BANGS, Auk, xviii, 1901, 28 (San Miguel I., Bay of Panama), 363 (Divala and David, Panama); Proc. New Engl. Zool. Club, iii, 1902, 36 (Boquete, Panama, 4,000 ft. alt.).

Elainea flavogastra subpagana BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, July 1903, 147 (Ceiba, Honduras).

[*Elainea*] *pagana* (not *Muscicapa pagana* Lichtenstein) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48, part (Mexico; Central America).

Elainea pagana BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San José, Costa Rica); 1888, 447 (Tizimin, Yucatan).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1883, 500 (San José, Costa Rica.)—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 137, part (Mexican and Central American references and localities).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1880, 34 (excl. South American localities and references).—ALFARO, Paginas Illustradas, ii, 1905, 803 (Costa Rica; habits; descr. nest and eggs, with cut).

Elænea pagana CHERRIE, Auk, vii, 1890, 235 (San José, Costa Rica; nesting habits; descr. nest and eggs).

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LESSER ANTILLEAN REFERENCES.

Elainea martinica (not *Muscicapa martinica* Linnæus) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 271 (Grenada); i, 1879, 270 (Grenada).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 616 (Grenada; habits; descr. nest and eggs).

Elainea pagana (not *Muscicapa pagana* Lichtenstein) CORY, Auk, v, 1888, 158 (Grenada); Birds West Ind., 1889, 292 (Grenada); Cat. Birds West Ind., 1892, 145, part (Grenada).—NICOLL, Ibis, 1904, 566 (Grenada).

ELÆNIA CHIRIQUENSIS CHIRIQUENSIS Lawrence.

LAWRENCE'S ELÆNIA.

Similar to *E. martinica subpagana* but throat and chest more olivaceous, axillars and under wing-coverts more buffy or creamy yellow, and size averaging decidedly smaller.

Adults (*sexes alike*).—Above plain grayish olive or deep, slightly olivaceous, hair brown, the feathers of pileum darker mesially, forming more or less distinct streaks; center of crown with more or less of concealed white, in form of streaks, but this sometimes nearly obsolete; tail dark grayish brown, with pale grayish brown edgings; wings slightly darker than tail, the middle and greater coverts broadly tipped with pale brownish gray (somewhat tinged with yellowish in fresh-plumaged specimens), the secondaries edged (except basally) with the same; primaries narrowly edged with very pale brownish gray; sides of head similar in color to upper parts, paling gradually toward throat, the supraloral region and eyelids (narrow orbital ring) indistinctly paler; chin and throat dull grayish white, more or less tinged with buffy yellowish, deepening on chest and sides into yellowish gray, the abdomen, median portion of breast, under tail-coverts, axillars, and under wing-coverts pale cream-yellowish or pale straw yellow; maxilla with basal half (approximately) horn brownish, terminal half blackish; mandible pale-colored, more or less extensively dusky terminally; legs and feet brownish black or dusky brown.

Adult male.—Length (skins), 125–137 (134); wing, 71.5–77 (74.1); tail, 58.5–63 (60.9); exposed culmen, 10–11.5 (11.1); tarsus, 16–18 (17.1); middle toe, 9.5–10.5 (9.8).[a]

[a] Eleven specimens.

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Adult female.—Length (skins), 123–135 (129); wing, 68.5–76.5 (71.2); tail, 55–63 (59.4); exposed culmen, 10–11.5 (10.8); tarsus, 15.5–17 (16.3); middle toe, 9–9.5 (9.3).[a]

Panama (near Panama City; Chiriqui) and Santa Marta district of Colombia (La Concepcion; Palomina), and southward to southwestern Brazil (Chapada, Mattogrosso).

Elainea chiriquensis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 176 (David, Panama; coll. U. S. Nat. Mus.).—SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé and David, Panama; crit.).

[*Elainia*] *chiriquensis* GRAY, Hand-list, i, 1869, 352, no. 5328.

Elainea albivertex PELZELN, Orn. Bras., ii. Abth., 1868, 177 (Ypanema, Brazil; coll. Vienna Mus.).—BERLEPSCH, Journ. für Orn., 1884, 301.—BERLEPSCH and HELLMAYR, Journ. für Orn., Jan., 1905, 1 (synonymy; crit.).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 218 (Sabana de Panama; crit.).

Elainea lundii REINHARDT, Vid. Medd. Kjobenhavn, 1870, 344, pl. 8, fig. 1 (Lagoa Santa, Brazil; coll. Copenhagen Mus.; =young; see Berlepsch and Hellmayr, Journ. für Orn., 1905, 2).

Elainea griseogularis (not of Sclater) REINHARDT, Vid. Medd. Kjobenhavn, 1870, 343.

[*Elainea pagana.*] Subsp. *albiceps* (not *Muscipeta albiceps* D'Orbigny and Lafresnaye) ALLEN, Bull. Am. Mus. N. H., ii, 1889, 197, part (Chapada, Mattogrosso, s. w. Brazil).

Elainea pagana albiceps ALLEN, Bull. Am. Mus. N. H., ii, 1889, 200, part (Chapada; crit.).

Elænia sororia BANGS, Proc. Biol. Soc. Wash., xii, Oct. 31, 1898, 175 (Palomina, Santa Marta, Colombia; coll. E. A. and O. Bangs).

Elænea pagana sororia ALLEN, Bull. Am. Mus. N. H., xiii, Aug. 25, 1900, 147 (Bonda, etc., Santa Marta, Colombia; crit.).

ELÆNIA CHIRIQUENSIS SORDIDATA (Bangs).

SAN MIGUEL ELÆNIA.

Similar to *E. c. chiriquensis*, but color of upper parts very slightly darker and less olivaceous, wings and tail averaging very slightly

[a] Eight specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Panama	72.7	60.3	11.5	16.7	9.7
Eight adult males from Colombia (La Concepcion and Palomina)	74.6	61.1	11	17.3	9.9
FEMALES.					
Three adult females from Panama	68.7	57.5	11.2	16	9.3
Five adult females from Colombia	72.7	60.5	10.6	16.5	9.3

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shorter, and bill averaging slightly longer, and, perhaps, relatively broader.[a]

Adult male.—Length (skins), 127–137 (132); wing, 67.5–77 (72.4); tail, 56–63.5 (60.1); exposed culmen, 11–12 (11.4); tarsus, 16–17 (16.6); middle toe, 9–10 (9.7).[b]

Adult female.—Length (skins), 122–135 (129); wing, 63–75 (69.2); tail, 55–61 (60.5); exposed culmen, 10.5–11.5 (11); tarsus, 15–17.5 (16.1); middle toe, 8.5–10 (9.2).[c]

Panama (San Miguel Island, Bay of Panama).

Elænia sordidata BANGS, Auk, xviii, Jan., 1901, 28 (San Miguel I., Bay of Panama; coll. E. A. and O. Bangs).

[*Elainea*] *sordidata* SHARPE, Hand-list, iii, 1901, 122.

Elainea albivertex sordidata THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, Sept., 1905, 152 (San Miguel I.; crit.).

ELÆNIA FRANTZII FRANTZII Lawrence.

FRANTZIUS' ELÆNIA.

Adults (*sexes alike*).—Above plain brownish olive, the center of crown rarely with a few white streaks on basal portion of feathers;[d] tail deep grayish brown (hair brown) with light greenish olive edgings; wings dusky, the middle and greater coverts broadly (but not sharply) tipped with pale yellowish olive (usually paler and more yellowish on greater coverts), forming two distinct bands, the secondaries broadly edged (except basally) with pale olive-yellow, the primaries and greater coverts narrowly edged with pale olive; sides of head and neck similar in color to pileum and hindneck but slightly paler, slightly relieved by an indistinct supraloral streak and indistinct narrow orbital ring of very pale olive or dull olive-whitish; chin, throat, chest, sides, and flanks pale yellowish olive or grayish olive-buff, passing into pale straw yellow on abdomen, under tail-coverts, and median portion of breast; axillars and under wing-coverts mostly pale straw yellowish; maxilla dark brown or horn brown, mandible much paler, sometimes brownish at tip; iris brown; legs and feet dark brown.

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[a] I am not able to verify other characters given in the original description as distinguishing the two forms, which, indeed, I have much difficulty in separating satisfactorily.

[b] Eight specimens.

[c] Six specimens.

[d] Although Doctor Sclater (Cat. Birds Brit. Mus., xiv, pp. 136, 137, 145) places this species in the section of the genus characterized by possession of a white "vertical spot," I find, after careful examination of thirty-two adults that only eight of these (exactly one in four) have even a trace of white on center of crown, and in none of these eight does the white amount to more than a minute streak at the base of a few feathers.

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Young.—Essentially like adults but upper parts decidedly browner (olive-brown), wing-bands brownish buff, and yellow of under parts paler (yellowish white).

Adult male.—Length (skins), 143–160 (151); wing, 77.5–84.5 (81.9); tail, 64–74.5 (70.6); exposed culmen, 11–12.5 (12); tarsus, 18–20.5 (18.8); middle toe, 11–12.5 (11.8).[a]

Adult female.—Length (skins), 136–151 (143); wing, 73.5–80.5 (76.5); tail, 61–71 (65.9); exposed culmen, 10.5–12 (11.3); tarsus, 17.5–19 (18); middle toe, 10–12.5 (11).[b]

Guatemala (Dueñas; San Pedro Martir; Volcan de Agua; Calderas, on Volcan de Fuego; Medio Monte; Barranca Honda); Nicaragua (Ometepe), Costa Rica (San Jose; Irazú; Santa Maria; Dota Mountains; Las Cruces de Candelaria; Volcan de Turrialba; Estrella de Cartago; Barranca), and Panama (Boquete; Volcan de Chiriqui). (Also said to occur in Colombia, Venezuela, and Ecuador, but I have not seen specimens from south of Panama.)

Elainea frantzii LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 172 (San José, Costa Rica; coll. U. S. Nat. Mus.); ix, 1868, 112 (San José, Barranca, and Dota Mts., Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 197 (Volcan de Chiriqui, Panama; crit.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 145, part (San Pedro Martir, Medio Monte, Volcan de Agua, and Barranca Honda, Guatemala; Dota and Irazú, Costa Rica; Volcan de Chiriqui; Veragua).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (Volcan de Irazú, Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 496 (Volcan de Irazú, Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 393 (Ometepe, Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 36, part.—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 204 (synonymy; crit.).

[*Elainea*] *frantzii* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.—SHARPE, Hand-list, iii, 1901, 124.

[a] Thirteen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Nicaragua (1) and Costa Rica (9)	81.7	70.2	12.1	19	11.9
Three adult males from Panama	82.7	71.8	12	18.3	11.3
FEMALES.					
Ten adult females from Nicaragua (1) and Costa Rica (9)	76.5	66	11.4	18	11
One adult female from Panama	75.5	64.5	11.5	18	11
Two adult females from Guatemala	77.3	66.3	11.3	18.3	10.8
One adult female (*E. frantzii stolzmanni*) from northern Peru	81	72.5	11.5	19.5	11.5

I am not able to satisfactorily distinguish specimens from the different countries named above, except that from northern Peru, which is much browner above and much more decidedly yellow below.

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E[lainea] frantzii SCLATER, Proc. Zool. Soc. Lond., 1870, 835.

Elænia frantzii BANGS, Proc. New Engl. Zool. Club, iii, 1902, 37 (Boquete and Volcan de Chiriqui, 4,500 to 11,000 ft., Panama).

[*Elainia*] *frantzii* GRAY, Hand-list, i, 1869, 352, no. 5329.

Elainea, sp.?, SALVIN, Ibis, 1866, 194 (Dueñas, Guatemala).

SOUTH AMERICAN REFERENCES.

Elainea pudica SCLATER, Proc. Zool. Soc. Lond., 1870 (pub. Apr. 1, 1871), 833, fig. 3 (Bogota, Colombia; coll. P. L. Sclater).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 781 (Venezuela).—BERLEPSCH, Journ. für Orn., 1884, 302 (Bucaramanga, Colombia; crit.).

E[lainea] pudica SCLATER, Proc. Zool. Soc. Lond., 1870, 835.

[*Elainea*] *pudica* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.

Elainea frantzii (not of Lawrence ?) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 513 (Antioquia, Colombia; descr. eggs).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 145, part (Bogota, Santa Elena, and Antioquia, Colombia; Merida, Venezuela).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 36, part (Colombia; Venezuela).

[*Elaïnea*] *frantzi* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 143 (Bogotá).

ELÆNIA FALLAX Sclater.

JAMAICAN ELÆNIA.

Adult male.—Above plain olive, the pileum darker with a posterior-central, mostly concealed, patch of white; tail deep grayish brown (deep hair brown) with olive edgings; wings dusky, the greater and middle coverts broadly tipped with olive-buff or olivaceous white (producing two distinct bands), the greater coverts and primaries narrowly edged with pale olive (sometimes inclining to olivaceous white on the latter), the secondaries (except basally) more broadly edged with pale olive-yellow or yellowish white; sides of head lighter olive than pileum, the supraloral, orbital, and suborbital regions still paler (indistinctly pale yellowish olive or dull olive-whitish); under parts pale olive-yellow, passing into dull grayish white (more or less tinged with pale olive-yellow) on upper throat and chin, the chest faintly shaded with pale olive, or grayish olive, the anal region nearly white; axillars and under wing-coverts clear pale olive-yellow; maxilla dusky brown, mandible paler brown, dusky terminally; legs and feet black or dusky (in dried skins); length (skins), 123–136 (129); wing, 66–70 (68.2); tail, 59.5–64.5 (62.4); exposed culmen, 10–11 (10.4); tarsus, 18.5–19 (18.7); middle toe, 10–11 (10.5).[a]

Adult female.—Similar to the adult male but white crown-patch usually smaller; length (skins), 127–146 (139); wing, 66–68.5 (67); tail, 61–65 (63); exposed culmen, 9.5–10.5 (10.2); tarsus, 18–19 (18.6); middle toe, 10–10.5 (10.1).[a]

[a] Four specimens.

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Island of Jamaica, Greater Antilles.

Elainea fallax SCLATER, Proc. Zool. Soc. Lond., 1861, 76, footnote (Jamaica; coll. P. L. Sclater), 407 (monogr.); 1870, 832, fig. 2 (redescribed); Cat. Am. Birds, 1862, 217; Cat. Birds Brit. Mus., xiv, 1888, 147.—ALBRECHT, Journ. für Orn., 1862, 199.—CORY, Auk, iii, 1886, 231; Birds West Ind., 1889, 118; Cat. West Ind. Birds, 1892, 14, 109, 130.—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 204 (crit.; synonymy).

[*Elainea*] *fallax* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 124.

[*Elainia*] *fallax* GRAY, Hand-list, i, 1869, 352, no. 5326.

Elainia fallax CORY, Auk, iii, 1886, 231 (synonymy and descr.); Birds West Ind., 1889, 118.

E[*lainea*] *fallax* NEWTON (A. & E.), Handb. Jamaica, 1881, 107.

ELÆNIA CHERRIEI Cory.

HAITIAN ELÆNIA.

Similar to *E. fallax*, but much smaller, duller and grayer olive above, and under parts much paler yellowish.

Adult female.—Above plain deep grayish olive, the pileum slightly darker and with a concealed postero-central patch of white, the feathers of which are deep grayish olive for most of the exposed portion; tail deep grayish brown (deep hair brown) with light grayish olive edgings; wings dusky, the middle and greater coverts broadly tipped with pale yellowish olive or dull olive-whitish, forming two conspicuous bands, the secondaries edged (except basally) with the same, the primaries and greater coverts more narrowly edged with light grayish olive; sides of head similar in color to pileum but paler, the supraloral region and a rather distinct orbital ring olive-whitish; underparts pale primrose yellow, shaded on chest and sides (especially the former) with pale olive or olive-buff, the chin and upper throat inclining to grayish white; axillars and under wing-coverts pale dull primrose yellow; maxilla dusky brown, mandible paler brown, darker terminally; legs and feet black; length (skins), 123–129 (126); wing, 61.5–64.5 (63); tail, 58.5–61.5 (60); exposed culmen, 10–10.5 (10.3); tarsus, 18.5–19.5 (19); middle toe, 10–11 (10.5).[a]

Island of Haiti (Catare and Aguacate, Santo Domingo), Greater Antilles.

??*Muscicapa albicapilla* VIEILLOT, Ois. Am. Sept., i, 1807, 66, pl. 37 (Santo Domingo).

Elainea cherriei CORY, Auk, xii, July, 1895, 279 (Catare, Santo Domingo; coll. Field Columbian Mus.).

[*Elainea*] *cherriei* SHARPE, Hand-list, iii, 1901, 124.

Elainia cherriei CHERRIE, Contr. Orn. San Domingo, 1896, 17 (Catare, Santo Domingo).

[a] Two specimens.

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Genus LEGATUS Sclater.

Legatus SCLATER, Proc. Zool. Soc. Lond., 1859, 46. (Type, *Tyrannus albicollis* Vieillot.)

Rather small or medium sized Tyrannidæ (wing 80–92 mm.) with tarsus not longer than middle toe without claw, width of bill at frontal antiæ nearly equal to distance from nostril to tip of maxilla, tail only slightly more than two-thirds as long as wing, the under parts conspicuously streaked with grayish on a yellowish white or pale yellow ground, a broad white superciliary stripe, and concealed yellow patch on crown.

Bill very short and broad, less than half as long as head, its width at frontal antiæ nearly equal to distance from nostril to tip of maxilla, exceeding length of gonys, and about twice its depth at same point, rather broadly triangular in vertical profile, with lateral outlines nearly straight; exposed culmen decidedly shorter than middle toe without claw, distinctly ridged, straight for basal two-thirds (approximately) then strongly decurved, the tip of maxilla not strongly uncinate; gonys shorter than mandibular rami, faintly convex; maxillary tomium nearly straight, minutely and indistinctly notched subterminally. Nostril partly exposed, rather large, oblique, overhung by rather broad membrane, this, however, covered by short latero-frontal feathering except portion above anterior end of nostril. Rictal bristles small, and feathers of chin and malar and frontal antiæ with small, very inconspicuous, bristly points. Wing long and pointed, the longest primaries exceeding secondaries by nearly twice the length of tarsus; ninth primary longest, eighth slightly shorter, the tenth (outermost) intermediate between sixth and seventh. Tail slightly more than two-thirds as long as wing (a little longer than distance from bend of wing to end of distal secondaries), even or very slightly double-rounded. Tarsus less than one-fifth as long as wing, stout, its scutellation typically exaspidean, the acrotarsial divisions distinct; middle toe, with claw, equal to tarsus, its basal phalanx united for most of its length to outer toe, for about half its length to inner toe; outer toe, without claw, reaching about to middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux as long as inner toe or very slightly shorter, decidedly, but not conspicuously, stouter, its claw decidedly shorter than the digit; all the claws rather small (especially that of the hallux), slightly curved, moderately sharp and compressed.

Coloration.—Above grayish brown, the crown with a concealed spot of yellow, the larger wing-coverts and secondaries with narrow pale edgings; a broad superciliary stripe of dull white; under parts grayish white anteriorly passing into pale yellow on under parts of body, the chest and sides broadly streaked with light grayish.

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Nidification.—(Unknown?[a].)

Range.—Southern Mexico to southern Brazil. (Monotypic.)

LEGATUS ALBICOLLIS (Vieillot).

STRIPED FLYCATCHER.

Adults (*sexes alike*).—Pileum (except forehead) dark sooty brown, inclosing a central concealed spot of lemon or canary yellow; back, scapulars, lesser wing-coverts, and rump deep grayish brown or olive, the feathers with more or less distinct paler margins; upper tail-coverts similar but rather darker and usually more or less distinctly margined with rusty, cinnamon, or fulvous; tail very dark sooty brown or blackish brown, the outer webs of rectrices narrowly edged with light olive (nearly white, or yellowish white, on outermost rectrix), the inner webs edged with pale grayish brown, pale rusty, or pale fulvous; wings brownish black, the middle coverts margined terminally (more or less distinctly)[b] with whitish, the greater coverts and secondaries edged with the same, these whitish edgings much broader on inner secondaries ("tertials") and obsolete toward base of outer secondaries; primaries very narrowly edged with pale grayish brown; a broad superciliary stripe of dull white (sometimes faintly tinged with yellow), the posterior (supra-auricular) portion faintly streaked with grayish, the anterior portion invading the forehead, where the two of opposite sides usually are confluent; loral, suborbital, and auricular regions dark sooty brown, the latter sometimes with minute shaft-streaks of paler; malar region, chin, and throat white, the first flecked, more or less, with grayish, the throat usually margined along each side by a more or less distinct submalar streak of grayish or sooty; rest of under parts sulphur yellow, sometimes white or nearly so anteriorly, the chest, breast (except medially), sides, and flanks broadly striped with brownish gray or olive, the under tail and wing coverts with V-shaped or cuneate streaks of the same; bill brownish black, the mandible more brownish basally; iris brown; legs and feet black.

Young.—Essentially like adults, but pileum without any yellow, and often tinged with rusty; superciliary stripe pale buff or buffy white, the two of opposite sides confluent (or nearly so) on nape; middle and greater wing-coverts broadly margined terminally with rusty, cinnamon, or cinnamon-buff; rectrices edged with rusty, and under parts nearly (sometimes quite) immaculate.

Adult male.—Length (skins), 131–160 (145); wing, 76.5–96 (84.9);

[a] Eggs yellowish white, with a ring of cinnamon-brown spots round larger end. (Ihering, Rev. Mus. Paul., iv, 1900, 233.) According to Mr. Gerald B. Thomas (in letter), however, eggs of this species (from British Honduras) are "almost a uniform chocolate brown, with here and there long wavy scrawls as in Orioles' (*Icterus*) eggs."

[b] These white markings sometimes obsolete in specimens in worn plumage.

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tail, 52–71.5 (60.6); exposed culmen, 11–13.5 (11.9); tarsus, 14–18 (15.9); middle toe, 10–12.5 (11.5).[a]

Adult female.—Length (skins), 127–163 (142); wing, 74–90.5 (82.3); tail, 50–66 (58.6); exposed culmen, 10.5–13 (12.1); tarsus, 14–17.5 (14.9); middle toe, 10–12.5 (11.4).[b]

Southeastern Mexico, in States of Vera Cruz (Cordova; Jalapa; Catemuco; Pasa Nueva; San Andreas Tuxtla; Playa Vicente), Tabasco (Teapa), and Chiapas (Palenque), southward through Guatemala (Coban; Las Salinas; Cajabon; Chisec), Costa Rica (San José; Tucurriqui; Barranca de Nicoya; Turrialba; Guaitil; Naranjo; Navarro; Reventazon; Pozo Azul de Pirris), and Panama (Chitra; David; Bogaba; Paraiso Station; Lion Hill Station; Panama City), and greater part of South America, from Colombia to Guiana, Ecuador, Bolivia, southern Brazil, and Paraguay. (No records for British Honduras, Honduras, Salvador, nor Nicaragua.)

Tyrannus albicollis VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 89 (Paraguay; based on *Suiriri chorreado sin roxo* Azara, Apunt. no. 186); Enc. Méth., 1823, 854.

M[uscipeta] albicollis D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1837, Synop. Av., p. 47 (Guarayos, Bolivia).

Muscipeta albicollis D'ORBIGNY, Voy. Amer. Mérid., Ois., 1839, 318 (Rio San Miguel, Guarayos, Bolivia).

Tyrannula albicollis HARTLAUB, Index Azara's Apunt., 1847, 12.

[*Tyrannula*] *albicollis* BONAPARTE, Consp. Av., i, 1850, 190 (Paraguay; Bolivia).

Elaenea albicollis CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 701.—BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 475.

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[a] Twenty-two specimens.

[b] Eleven specimens.

Notwithstanding the great variation in size in this species I am not able to subdivide it satisfactorily, color-variations being apparently as unreliable as measurements. Specimens measured average as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from southern Mexico (Vera Cruz, Tabasco, and Chiapas)	93	67	13.1	17	12.3
Six adult males from Costa Rica	86.4	61.3	11.8	16.5	11.7
Three adult males from Panama	81.8	59.2	11.8	15.5	11.8
Four adult males from Colombia	79.3	55.4	11.6	15.4	11.1
One adult male from Venezuela	80	56	11	15.5	11
One adult male from Trinidad	86	62.5	11.5	15.5	11
One adult male from Cayenne	83.5	59.5	11.5	14.5	10.5
Two adult males from Brazil	82.5	59.8	11.5	14.5	10.8
FEMALES.					
Three adult females from southern Mexico	89	64.5	12.7	16.5	12.2
Four adult females from Costa Rica	82	58	12.3	15.9	11.4
One adult female from Panama	79	55.5	11.5	15.5	11
Two adult females from Colombia	74.5	52.5	11	15	10.8
One adult female from Brazil	82.5	58.5	12.5	15.5	11

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[*Elainia*] *albicollis* GRAY, Hand-list, i, 1869, 353, no. 5362.

Legatus albicollis SCLATER, Proc. Zool. Soc. Lond., 1859, 46, in text; 1860, 68 (Ecuador); Cat. Am. Birds, 1862, 218 (Cayenne; Pará, Brazil; Pallatanga, e. Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 155.—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328, 337, 472 (Lion Hill, Panama R. R.); viii, 1867, 177 (David, Panama); ix, 1868, 112 (San José, Guaitil, and Turrialba, Costa Rica).—SCLATER and SALVIN, Proc. Zool Soc. Lond., 1864, 359 (Isthmus Panama; crit.); 1867, 148, 577 (Pará); 1879, 614 (Rio San Miguel, Bolivia).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (David, Panama); 1870, 197 (Bogaba and Chitra, Panama); Cat. Strickland Coll., 1882, 308; Ibis, 1885, 295 (Bartica Grove and Camacusa, British Guiana).—PELZELN, Orn. Bras., ii. Abth., 1869, 108, iv. Abth., 1870, 425.—LAYARD, Ibis, 1873, 382 (Pará, Brazil).—CABANIS, Journ. fur Orn., 1874, 88 (Cantagallo, Prov. Rio de Janeiro, Brazil).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (Naranjo, Costa Rica).—SALVIN and GODMAN, Ibis, 1880, 124 (Minca, Colombia, 2,000 ft.); Biol. Centr.-Am., Aves, ii, 1888, 38.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1882, 20 (Huambo and Yurimaguas, Peru; crit.); Orn. du Pérou, ii, 1884, 273.—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 556 (Chimbo, w. Ecuador).—BERLEPSCH, Journ. fur Orn., 1884, 302 (Bucaramanga, Colombia; crit.); 1887, 118 (Paraguay); 1889, 301 (Tarapoto, n. e. Peru).—CHERRIE, Auk, ix, 1892, 250 (San José, Costa Rica; descr. young).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 336 (Chapada, Mattogrosso, Brazil); xiii, 1900, 147 (Bonda, etc., Santa Marta, Colombia).—CHAPMAN, Bull. Am. Mus. N. H., 1894, 39 (Trinidad); vii, 1895, 323 (Caparo, Trinidad).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1896, 365 (La Merced, centr. Peru).—KOENIGSWALD, Journ. für Orn., 1896, 358 (São Paulo, s. Brazil).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 9 (Valle del Zamora, e. Ecuador).—STONE, Proc. Ac. Nat. Sci. Phila., 1899, 306 (Ambalema, centr. Colombia).—IHERING, Aves de S. Paulo, 1899, 195; Revista Mus. Paulista, iv, 1900, 155 (Cantagallo, São Paulo, s. Brazil), 233 (descr. eggs); vi, 1904, 326 (Paraguay).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 21 (Loma del Leon, Panama).—GOODFELLOW, Ibis, 1901, 705 (Santo Domingo, w. Ecuador; habits).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 45 (Quiribana de Caicará and Ciudad Bolivar, Venezuela).—HARTERT, Novit. Zool., ix, 1902, 607 (Paramba, n. w. Ecuador; crit.; descr. young).

L[*egatus*] *albicollis* CABANIS and HEINE, Mus. Hien., ii, 1859, 60 (Bahia, Brazil).

[*Legatus*] *albicollis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.—SHARPE, Hand-list, iii, 1901, 125.

Myiozetetes albicollis BERLEPSCH, Journ. fur Orn., 1889, 302 (Tarapoto, Peru; crit.).

M[*uscicapa*] *legatus* LICHTENSTEIN, Verz. Doubl., 1823, 56.

Muscicapa citrina MAXIMILIAN, Beitrag. Naturg. Bras., iii, pt. ii, 1831, 917 (Jagoaripa, Brazil; type now in coll. Am. Mus. Nat. Hist.; see Allen, Bull. Am. Mus. N. H., ii, no. 3, 1889, 233).

Tyrannus circumcinctus SWAINSON, Ornithological Drawings, pt. iv, 1836?, pl. 50.

P[*yrocephalus*] *circumcinctus* GRAY, Gen. Birds, i, 1846, 250.

Elænia variegata SCLATER, Proc. Zool. Soc. Lond., 1856, 297 (Cordova, Vera Cruz, s. e. Mexico; coll. A. Sallé).

[*Elainia*] *variegata* GRAY, Hand-list, i, 1869, 353, no. 5363.

Legatus variegatus SCLATER, Proc. Zool. Soc. Lond., 1859, 46, 366 (Jalapa); 1864, 175 (City of Mexico); Ibis, 1859, 160, 442 (Cordova, Jalapa, and Playa Vicente, Vera Cruz; Oaxaca; Guatemala); Cat. Am. Birds, 1862, 217 (Jalapa).—SCLATER and SALVIN, Ibis, 1859, 123 (Guatemala).—CABANIS, Journ. für Orn., 1861, 245 (Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328 (Isthmus

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Panama); ix, 1868, 112 (Costa Rica).—FRANTZIUS, Journ. fur Orn., 1869, 307 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).

[Legatus] variegatus CABANIS and HEINE, Mus. Hein., ii, 1859, 60, footnote (Mexico; Central America).

[*Legatus*] *variegatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.

Myiobius leucophaius LEOTAUD, Ois. Trinidad, 1866, 227.

Genus MYIOZETETES Sclater.

Myiozeta BONAPARTE, Compt. Rend., xxxviii, 1854 (Consp. Syst. Orn., p. 30) (ex Schiff. manuscript). (*Nomen nudum.*)

Myiozetetes (emendation) SCLATER, Proc. Zool. Soc. Lond., 1859, 46. (Type, *Muscicapa cayanensis* Linnæus.)

Medium-sized Tyrannidæ (wing about 80–100 mm.), with small and narrow bill (exposed culmen little if any longer than middle toe without claw, its width at anterior end of nostrils equal to about half the distance from nostril to tip, and not greater than its depth at same point), tail at least three-fourths as long as wing; adults with an orange or scarlet crown-patch, white superciliary stripe, and under parts bright yellow, the throat white.

Bill about half as long as head, narrow, its width at anterior end of nostrils not greater than its depth at same point, and equal to about half the distance from nostril to tip of maxilla; exposed culmen little if any greater than length of middle toe without claw, distinctly ridged, straight for most of its length, gradually but decidedly decurved terminally, the tip of maxilla moderately uncinate; gonys much longer than mandibular rami, more or less (usually faintly) convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril at least partly exposed, longitudinally or obliquely oval, overhung by narrow membrane, the nasal fossæ narrower and rounded anteriorly. Rictal bristles small but distinct, the feathers of chin, malar antiæ, and frontal antiæ with small but distinct bristly antrorse tips. Wing rather large and pointed, the longest primaries exceeding distal secondaries by not more (usually decidedly less) than length of tarsus; ninth, eighth and ninth, or seventh, eighth, and ninth primaries longest, the tenth (outermost) shorter than fourth to nearly as long as fifth. Tail more than three-fourths to four-fifths as long as wing, slightly emarginate or double-rounded, the rectrices firm, rather broad, with broadly rounded tip. Tarsus equal in length to middle toe with claw (or sometimes very slightly longer or shorter), stout, its scutellation typically exaspidean, the acrotarsial divisions distinct, and outer side of tarsus without separate series of scutella on upper posterior portion; middle toe, without claw, equal to or very slightly longer than exposed culmen, its basal phalanx united to outer toe for entire length, or very nearly so, to inner toe for about half its length; outer toe, without claw, reaching to about middle of subterminal pha-

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lanx of middle toe, the inner toe very slightly shorter; hallux about equal to inner toe or slightly shorter, decidedly but not conspicuously stouter, its claw shorter than the digit; all the claws rather large, moderately to strongly curved, sharp, compressed.

Coloration.—A conspicuous superciliary stripe of white or else pileum light gray passing into white on forehead; crown (in adults) with a concealed patch of orange or scarlet; back, etc., plain olive or olive-greenish, the wings and tail darker with paler edgings (primaries sometimes edged with rufous); sides of head dusky; throat white, the rest of under parts bright lemon yellow.

Nidification.—Nest a bulky, roundish mass of dry grass and weed stems, etc., with entrance in one side near top, placed in bushes or small trees. Eggs white or pale cream color, speckled, chiefly around larger end, with dark brown, lavender, etc.

Range.—Northern Mexico to Guiana, Peru, and southeastern Brazil. (About six species and subspecies.)[a]

KEY TO THE SPECIES AND SUBSPECIES OF MYIOZETETES.[b]

a. A broad white superciliary stripe, extending above auricular region to occiput.

b. Distal secondaries and proximal primaries distinctly edged with rusty; sides of pileum, auricular region, etc., sooty blackish; crown-patch more yellowish orange or orange-yellow. (*Myiozetetes cayanensis.*)

c. Smaller, with less of rusty on wing. (Amazon Valley to western Ecuador, Colombia, Venezuela, etc., and Panama.)

Myiozetetes cayanensis cayanensis. (p.444).

cc. Larger, with more of rusty on wing. (Southern Brazil.)

Myiozetetes cayanensis erythropterus (extralimital).[c]

bb. Distal secondaries and proximal primaries not edged with rusty; sides of pileum, auricular region, etc., more or less grayish; crown-patch more reddish orange or orange-red.

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[a] ***Muscicapa sulphurea*** Spix (*Myiozetetes sulphureus* Cabanis and Heine, Sclater, and others) is certainly not congeneric (see "key" to the genera, p. 344). *Elænia luteiventris* Sclater (*Myiozetetes luteiventris* Sclater) I have not seen.

[b] I have not seen the following species, referred to this genus by Doctor Sclater:

Elænia luteiventris Sclater, Proc. Zool. Soc. Lond., 1858, 71 (Rio Napo, e. Ecuador; coll. Verreaux).—***Myiozetetes luteiventris*** Sclater, Cat. Am. Birds, 1862, 219; Proc. Zool. Soc. Lond., 1871, 754 (e. Ecuador; Rio Negro; Rio Madeira; Cayenne); Cat. Birds Brit. Mus., xiv, 1888, 164 (Oyapoc, Cayenne; Rio Napo and Sarayacu, e. Ecuador); Pelzeln, Orn. Bras., ii. Abth., 1869, 109 (Maribatanas, n. Brazil).

Myiozetetes sulphureus of authors (*Muscicapa sulphurea* Spix, Av. Bras., ii, 1825, 16, pl. 20) I consider not a member of this genus and have made it the type of a new one (*Tyrannopsis* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209).

The young of the different forms of *Myiozetetes* are so poorly represented in the series of specimens examined that I am unable to include them in the key.

[c] *Tyrannula erythroptera* Lafresnaye, Rev. Zool., Feb., 1853, 56 (Brazil).—*Myiozetetes erythropterus* Sclater, Proc. Zool. Soc. Lond., 1871, 751 (monogr.); Cat. Birds Brit. Mus., xiv, 1888, 159.

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c. Inner webs of remiges and outer webs of distal secondaries and proximal primaries edged with cinnamon or wood brown; color of back, etc., darker and more brownish olive. (Brazil, south of Amazon River, to eastern Peru.) **Myiozetetes similis** (extralimital).[a]

cc. Inner webs of remiges edged with pale yellowish buff, outer webs of distal secondaries and proximal primaries edged with pale olive. (*Myiozetetes texensis.*)

d. Larger (wing of male averaging 93.4, of female 90.3); gray of pileum averaging darker, middle and greater wing-coverts with indistinct (if any) paler terminal margins;[b] yellow of under parts averaging paler. (Southern Mexico to Costa Rica.).....**Myiozetetes texensis texensis** (p. 446)

dd. Smaller (wing of male averaging 86, of female 83.9); gray of pileum averaging paler; middle and greater wing-coverts with distinct terminal margins of paler; yellow of under parts averaging deeper. (Panama, Colombia, Venezuela, and Trinidad.).....**Myiozetetes texensis columbianus** (p. 449)

aa. No white superciliary stripe, the whole pileum being gray (except for central concealed orange-red patch), passing into whitish on forehead and supraloral region. (Nicaragua to Peru.).....**Myiozetetes granadensis** (p. 450)

MYIOZETETES CAYANENSIS CAYANENSIS (Linnæus).

CAYENNE FLYCATCHER.

Adults (*sexes alike*).—Pileum dark sooty brown or blackish brown, with a large central, mostly concealed, patch of bright orange (varying to reddish orange and yellowish orange); a broad white superciliary stripe, the two of opposite sides confluent on forehead and sometimes nearly so on nape or lower occiput; loral, orbital, and auricular regions and sides of neck plain dark sooty brown or blackish brown; hindneck, back, scapulars, rump, upper tail-coverts, and lesser wing-coverts, plain olive; wings (except lesser coverts) and tail deep grayish brown, the rectrices, inner secondaries, and larger wing-coverts edged with light olive, the distal secondaries and proximal primaries edged with rusty or cinnamon-rufous, the larger primaries narrowly edged with paler rusty or rusty brownish; chin and throat white; rest of under parts, including axillars and under wing-coverts, uniform bright canary on lemon yellow; inner webs of remiges broadly edged with cinnamon; bill, legs, and feet black; iris brown.

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[a] *Muscicapa similis* Spix, Av. Bras., ii, 1825, 18, pl. 25 (Amazon Valley).—*M[yiozetetes] similis* Cabanis and Heine, Mus. Hein., ii, 1859, 61 (Brazil).—*Myiozetetes similis* Sclater, Cat. Am. Birds, 1862, 292; Cat. Birds Brit. Mus., xiv, 1888, 161; Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1888, 41, part.—*Muscipeta cayennensis* (not *Muscicapa cayanensis* Linnæus) Lafresnaye and D'Orbigny, Mag. de Zool., 1837 (Synopsis Avium, p. 47).—*Elainea cayenensis* Tschudi, Fauna Peruana, Aves, 1845, 148.—*Myiozetetes cayenensis* (not of Sclater, 1859) Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 978 (Pebas, e. Peru), 1869, 598 (Peru).—*Elaenea miles* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 474 (Lagoa Santa and Congonhas, Brazil).—(?) *T[yrannula] superciliosa* Sw[ainson] (not of Bonaparte, 1837) Bonaparte, Consp. Av., i, 1850, 190 (Brazil).

[b] Except in specimens from Nicaragua and Costa Rica, which are in other respects also intergrades.

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Young.—Essentially like adults, but without orange on crown, and with rectrices, all the remiges, primary coverts, and middle and greater coverts edged with cinnamon.

Adult male.—Length (skins), 150–180 (161); wing, 80–92.5 (87.8); tail, 61.5–77.5 (70); exposed culmen, 13–15 (13.9); tarsus, 17.5–21 (18.5); middle toe, 11.5–14.5 (12.5).[a]

Adult female.—Length (skins), 141–187 (154); wing, 80.5–90 (84.1); tail, 61.5–76 (67.8); exposed culmen, 12.5–15 (13.8); tarsus, 17.5–19 (18.4); middle toe, 11.5–13.5 (12.1).[b]

Panama (Loma del Leon; Paraiso Station; Panama City) and southward through Colombia, Venezuela, Trinidad, British Guiana, Surinam, Cayenne, Ecuador, eastern Peru (Nauta) and entire Amazon Valley to Bolivia (Rio Blanco and Rio Itonama, Province of Moxos) and southwestern Brazil (Chapada, Mattogrosso).

[*Muscicapa*] *cayanensis* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 327 (based on *Muscicapa cayanensis* Brisson, Orn., ii, 404, pl. 38, fig. 4).—GMELIN, Syst. Nat., i, pt. ii, 1788, 937.

Elænea cayanensis CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 701.

M[yiobius] cayanensis GRAY, Gen. Birds, i, 1846, 249.

[*Elainia*] *cayanensis* GRAY, Hand-list, i, 1869, 353, no. 5352.

Myiozetetes cayanensis HELLMAYR, Novit. Zool., xii, Sept., 1905, 293 (Pará, Brazil; crit.).

Tyrannus cayennensis TEMMINCK, Tabl. Méth. (in Pl. Col., i), 1836?, 24.

M[uscipeta] cayennensis D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1837 (Synopsis Avium, p. 47) (Mojos, Bolivia).

Muscipeta cayennensis D'ORBIGNY, Voy. Amer. Mérid., Ois., 1839, 317 (Rio Blanco and Rio Itonama, prov. Mojos, Bolivia).

[*Tyrannula*] *cayennensis* BONAPARTE, Consp. Av., i, 1850, 190.

Elænia cayennensis SCLATER, Proc. Zool. Soc. Lond., 1858, 458 (Gualaquiza and Zamora, w. Ecuador).

[a] Twelve specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Panama	88.3	71.1	14	18.5	12.5
Three adult males from Colombia	85	67	13	18	12.2
Three adult males from Venezuela	88	69	14.2	18.2	12.2
Two adult males from s. w. Brazil (Mattogrosso)	90.8	76 3	14.5	20	13.8
FEMALES.					
Seven adult females from Panama	82.9	66.4	13.7	18.5	12
Two adult females from Venezuela	85.8	68.5	14	18	12
One adult female from s. w. Brazil (Mattogrosso)	90	76	14.5	18.5	13.5

I can not see that the specimens from southern Brazil (Chapada and Cuyaba, Mattogrosso) differ from others except in larger size.

The South American representatives of this species require careful revision.

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Myiozetetes cayennensis SCLATER, Proc. Zool. Soc. Lond., 1856, 56; 1859, 45; 1871, 751, 752 (monogr.; Cayenne; Bogota; Panama; Babahoyo, w. Ecuador); Cat. Am. Birds, 1862, 219 (Trinidad); Cat. Birds Brit. Mus., xiv, 1888, 160 (Paraiso Station and Panama, Panama R. R.; Magdalena Valley, Medellin, Bogota, and Bucaramanga, Colombia; Babahoyo, Quito, Balzar Mts., and Santa Rita, Ecuador; Venezuela; Trinidad; Roraima and Bartica Grove, British Guiana; Cayenne; Pará, lower Amazon).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295 (Lion Hill, Panama R. R.).—TAYLOR, Ibis, 1864, 86 (Venezuela).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 189 (Nauta, upper Amazons); 1867, 577 (Pará), 978 (upper Amazons); 1868, 628 (San Esteban, Venezuela); 1876, 16 (Huiro, Peru).—PELZELN, Orn. Bras., ii. Abth., 1869, 109.—FINSCH, Proc. Zool. Soc. Lond., 1870, 569 (crit.).—SALVIN, Cat. Strickland Coll., 1882, 309 (Trinidad; Bolivia); Ibis, 1885, 295 (Bartica Grove and Roraima, British Guiana, 3,500 ft.).—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 556 (Guayaquil, w. Ecuador); 1885, 68 (Chimbo, w. Ecuador).—BERLEPSCH, Journ. für Orn., 1884, 302 (Bucaramanga, Colombia; crit.).—TACZANOWSKI, Orn. du Pérou, ii, 1884, 275.—SALVIN, Ibis, 1885, 295 (British Guiana).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 40.—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 337 (Chapada, s. w. Brazil).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 9 (Vinces and Foreste del Rio Peripa, w. Ecuador).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 21 (Loma del Leon, Panama).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 218 (Sabana de Panama).

M[yiozetetes] cayennensis CABANIS and HEINE, Mus. Hein., ii, 1859, 61 (Cayenne).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 279 (diagnosis).

[*Myiozetetes*] *cayennensis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.—SHARPE, Hand-list, iii, 1901, 126.

M[yiozetetes] guianensis CABANIS and HEINE, Mus. Hein., ii, Sept. 30, 1859, 61 (Guiana; Surinam).—SCLATER, Proc. Zool. Soc. Lond., 1860, 283 (Babahoyo, w. Ecuador); Cat. Am. Birds, 1862, 212 (Bogota; Babahoyo, Ecuador).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 279 (diagnosis); 1868, 168 (Venezuela).—WYATT, Ibis, 1871, 333 (Colombia).

[*Elainia*] *guianensis* GRAY, Hand-list, i, 1869, 353, no. 5358.

Myiozetetes rufipennis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, 1869, 267 (Valencia, Venezuela; coll. G. N. Lawrence [a]).—SCLATER, Proc. Zool. Soc. Lond., 1871, 751, 752 (San Esteban, Venezuela).

[*Myiozetetes*] *rufipennis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.

Myiozetetes cayennensis rufipennis BERLEPSCH and HARTERT, Novit. Zool., ix, Apr., 1902, 45 (Quiribana de Caicara, Caicara, Ciudad Bolivar, and Altagracia, Venezuela; descr. nest and eggs).

MYIOZETETES TEXENSIS TEXENSIS (Giraud).

GIRAUD'S FLYCATCHER.

Adults (*sexes alike*).—Pileum brownish gray (nearly mouse gray) with a large central concealed patch of bright orange-red; a broad superciliary stripe of white, the two of opposite sides confluent across forehead (where usually more or less tinged with gray), and also nearly

[a] Doctor Allen (Bull. Am. Mus. N. H., iv, 1892, 337 says that *M. rufipennis* Lawrence, is identical with *M. erythropterus* (Lafresnaye); but if the latter is, as Doctor Sclater says, merely a southeastern Brazilian form of *M. cayanensis* this could hardly be the case.

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confluent on nape or lower occiput; hindneck grayish olive or olive-grayish, passing into plain olive-green or brownish olive-green on back, scapulars, rump, and lesser wing-coverts; upper tail-coverts grayish brown or grayish olive; wings (except lesser coverts) and tail deep grayish brown with pale olive edgings, these paler and more yellowish on inner secondaries; loral, orbital, malar, and auricular regions dusky, the last with minute shaft-streaks of paler; chin and throat white or yellowish white; rest of under parts, including axillars and under wing-coverts, uniform bright canary or lemon yellow; inner webs of remiges broadly edged with yellowish buff; bill, legs, and feet black; iris brown.

Young.—Essentially like adults, but without red on crown, color of back, etc., more grayish brown (not olive-greenish), rectrices broadly edged (on both webs) and terminally margined with cinnamon or pale russet, remiges edged with the same, greater wing-coverts edged with cinnamon or cinnamon-buff, and middle coverts margined with the same.

Adult male.—Length (skins), 155–186 (165); wing, 89.5–97 (93.4); tail, 69.5–78 (73.9); exposed culmen, 13.5–15 (14.5); tarsus, 17.5–20 (18.4); middle toe, 11.5–14 (13).[a]

Adult female.—Length (skins), 151–173 (162); wing, 86–96.5 (90.3); tail, 65.5–77.5 (71.1); exposed culmen, 13–15 (14.1); tarsus, 17.5–20.5 (19.1); middle toe, 12–13.5 (13.1).[b]

Southern Mexico, in States of Vera Cruz (Cordova; Jalapa; Orizaba; Mirador; Jico), Puebla (Chietla), Michoacan (Los Reyes), Jalisco (Ocotlan), Sinaloa (Escuinapa; Mazatlan), Colima (Plains of Colima; Manzanillo), Guerrero (Acapulco; El Limon), Oaxaca (Chihuitan; Juchitan; Santa Efigenia), Yucatan (Chichen-Itza; Temax; La Vega; Merida), and Chiapas (Tapachula), through Guatemala (Dueñas; Palin; San Gerónimo; San José; Secanquim), Honduras (Ceiba; Yaruca; Truxillo; Segovia River; San Pedro) and Nicaragua (Greytown; Rio Escondido; San Carlos; Sucuyá; Los Sábalos;

[a] Eighteen specimens.

[b] Sixteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from southern Mexico	95.1	76.1	14.6	19.9	13.6
Two adult males from Honduras	94.2	75.3	13.8	18.5	13
Nine adult males from Nicaragua (5) and Costa Rica (4)	91.8	71.8	14.6	17.2	12.6
FEMALES.					
Eight adult females from southern Mexico	92.7	74.1	14.4	19.6	13.4
One adult female from Guatemala	94	75	15	19.5	13
Seven adult females from Nicaragua (4) and Costa Rica (5)	87.1	68.1	13.7	18.5	12.8

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San Juan del Sur) to Costa Rica[a] (San José; Cartago; Bonilla; Jiménez; Sipurio; Grecia; Alajuela; Bebedero; San Sebastian).

Tyranula cayennensis (not *Muscicapa cayanensis* Linnæus) SWAINSON, Philos. Mag., i, 1827, 367 (Mexico).

Muscicapa cayennensis LICHTENSTEIN, Preis.-Verz. Mex. Vög., 1831, 2; Journ. für Orn., 1863, 58.

Tyrannus superciliosus Swains[on] (not *Tyrannula superciliosa* Swainson) BONAPARTE, Proc. Zool. Soc. Lond., 1837, 118 (Guatemala).

Myiozetetes similis superciliosus NELSON, Auk, xvii, Apr., 1900, 124.—BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 148 (Ceiba and Yaruca, Honduras).—MILLER (W. D. W.), Bull. Am. Mus. N. H., xxi, 1905, 357 (Escuinapa, s. Sinaloa).

Muscicapa texensis GIRAUD, Sixteen Sp. Texas birds, 1841, pl. 1 ("Texas;" type now in coll. U. S. Nat. Mus.)—SCLATER, Proc. Zool. Soc. Lond., 1855, 65.

Elænia texensis SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz; crit.).

[*Elainia*] *texensis* GRAY, Hand-list, i, 1869, 353, no. 5354.

Myiozetetes texensis SCLATER, Proc. Zool. Soc. Lond., 1859, 56 (Omoa, Honduras), 366 (Jalapa, Vera Cruz); 1864, 176 (near City of Mexico), 1871, 751, 753 (monogr.); Ibis, 1859, 443 (Cordova and Jalapa, Vera Cruz); Cat. Birds Brit. Mus., xiv, 1888, 162, part (Cordova, Vera Cruz; Mazatlan; n. Yucatan).—SALVIN and SCLATER, Ibis, 1859, 123 (Dueñas, Guatemala; descr. nest and eggs).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 837 (San Pedro, Honduras).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Omoa, Honduras).—OWEN, Ibis, 1861, 64 (San Gerónimo, Guatemala; descr. nest and eggs).—CABANIS, Journ. für Orn., 1861, 245 (Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 182 (Greytown, Nicaragua); ix, 1868, 112 (San José, Angostura and Cartago, Costa Rica); ix, 1869, 201 (Merida, Yucatan); Mem. Bost. Soc., N. H., ii, 1874, 286 (Mazatlan; Tepic; Plains of Colima; habits; notes); Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Juchitan, Barrio, Chihuitan, and Santa Efigenia, Oaxaca).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—FINSCH, Proc. Zool. Soc. Lond., 1870, 569 (crit.).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San José, Costa Rica); 1883, 447 (Yucatan; habits).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 309.—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 500 (San José, Costa Rica); vi, 1883, 374, 384, 402 (San Juan del Sur, Sucuyá, and Los Sábalos, Nicaragua).—SALVIN, Cat. Strickland Coll., 1882, 309 (Guatemala); Proc. Zool. Soc. Lond., 1883, 423 (Acapulco, Guerrero).—COUES, Key N. Am. Birds, 2d. ed., 1884, 430.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 154 (Chietla, Puebla; Jalapa, Vera Cruz).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 450.—CHERRIE, Auk, vii, 1890, 235 (San José, Costa Rica; nesting habits; descr. nest and eggs).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Escondido, Nicaragua).—CHAPMAN, Bull. Am. Mus. N. H., viii, 1896, 283 (Chichen-Itza, Yucatan); x, 1898, 31 (Jalapa, Vera Cruz; habits).—SKINNER, Condor, iii, 1901, 29–31 (Tapachula, Chiapas; descr. and photo. of nest and eggs).—ALFARO, Paginas Illustradas, ii, 1905, 803 (Costa Rica; habits.: descr. nest and eggs).

M[yiozetetes] texensis CABANIS and HEINE, Mus. Hein., ii, 1859, 62 (Jalapa).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 279 (diagnosis).—RIDGWAY, Man. N. Am. Birds, 1887, 331.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 517.

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[a] Specimens from Costa Rica and Nigaragua are, however, intermediate between this form and *M. t. columbianus*, though apparently rather nearer the former.

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[*Myiozetetes*] *texensis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49, part

T[*yrannula*] *similis* (not *Muscicapa similis* Spix) HARTLAUB, Syst. Verz., 1844, 49, part (Guatemala).

Myiozetetes similis SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 41, part.—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).

[*Myiozetetes*] *similis* SHARPE, Hand-list, iii, 1901, 126, part.

Myiozetetes marginatus (not of Lawrence, 1863) LAWRENCE Ann. Lyc. N. Y., ix, 1868, 112 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).

MYIOZETETES TEXENSIS COLUMBIANUS (Cabanis and Heine).

COLOMBIAN FLYCATCHER.

Similar to *M. t. texensis*, but averaging decidedly smaller, gray of pileum lighter, yellow of under parts brighter or deeper, and middle and greater wing-coverts distinctly margined terminally with paler.

Adult male.—Length (skins), 153–164 (158); wing, 84–89.5 (86); tail, 66–73 (69.5); exposed culmen, 13–15 (14); tarsus, 18–19 (18.3); middle toe, 12.[a]

Adult female.—Length (skins), 146–159 (153); wing, 82–85 (83.7); tail, 64.5–70.5 (67.4); exposed culmen 14–15 (14.7); tarsus, 18–19 (18.2); middle toe, 11–12.5 (11.9).[b]

Panama (David; Divala; Calovevora; Chitra; Bogaba; Castillo; Panama City; Sabana de Panama; Lion Hill), Colombia (San Mateo; La Concepcion; Palomina; Cartagena; Bonda; Bogota; Envigado), Venezuela (Puerto Cabello; Angostura; Altagracia; Ciudad Bolivar; San Sebastian; La Guaira; El Pilar), and Trinidad.[c]

[a] Three specimens.

[b] Four specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Panama	86.7	68.5	14	18.5	12
One adult male from Colombia	84.5	69.5	14	18	12
FEMALES.					
Three adult females from Panama	83.3	67.3	15	18.3	11.8
One adult female from Colombia	85	67.5	14	18	12

[c] What disposition should be made of specimens of this species from Ecuador and Peru the paucity of material available prevents me from deciding. The single specimen examined (from Guayaquil, Ecuador) is decidedly larger than Colombian and Panama examples but apparently is otherwise similar. References belonging here are:

Myiozetetes columbianus (not of Cabanis and Heine?) SCLATER, Proc. Zool. Soc. Lond., 1860, 295 (Esmeraldas, w. Ecuador); Cat. Am. Birds, 1862, 219, part (Babahoyo, Ecuador).

Myiozetetes grandis LAWRENCE, Proc. Ac. Nat. Sci. Phila., 1871, 234 (Tumbez, Peru; coll. Vassar College Mus.).

Myiozetetes texensis (not *Muscicapa texensis* Giraud) BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1885, 118 (Esmeraldas, w. Ecuador).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 162, part (Esmeraldas, Guayaquil, and Sarayacu,

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Myiozetetes cayennensis (not *Muscicapa cayanensis* Linnæus) SCLATER, Cat. Am. Birds, 1862, 219, excl. syn. (Trinidad).

M[yiozetetes] columbianus CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 62 (Puerto Cabello, Venezuela; Cartagena, Colombia; coll. Heine Mus.).—HEINE, Jour. für Orn., 1861, 198, in text.—LAWRENCE, Ibis, 1862, 11, in text.—SCLATER Proc. Zool. Soc. Lond., 1871, 751 (diagnosis).

Myiozetetes columbianus SCLATER, Cat. Am. Birds, 1862, 219, part (Bogota, Colombia).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328 (Lion Hill Station, Panama R. R.); vii, 1867, 177 (David, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (David, Panama); 1870, 197 (Calovevora, Chitra, and Bogota, Panama).—PELZELN, Orn. Bras., ii. Abth., 1869, 109.—FINSCH, Proc. Zool. Soc. Lond., 1870, 569 (crit.).

[*Myiozetetes*] *columbianus* PELZELN, Orn. Bras., iv. Abth., 1870, 425.

Myiozetetes texensis columbianus BERLEPSCH, Ibis, Oct., 1884, 434 (Angostura, Venezuela; crit.).

Myiozetetes texensis colombianus BANGS, Proc. Biol. Soc. Wash., xii, June 3, 1898, 136 (Santa Marta, Colombia), 176 (Palomina, Santa Marta).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 146 (Bonda, etc., Santa Marta).

Myiozetetes superciliosus columbianus BERLEPSCH and HARTERT, Novit. Zool., ix, Apr., 1902, 46 (Altagracia and Ciudad Bolivar, Venezuela).

Myiozetetes similis colombianus ALLEN, Bull. Am. Mus. N. H., xxi, Oct. 4, 1905, 284 (Bonda, Santa Marta; descr. nest and eggs).

[*Elainia*] *columbianus* GRAY, Hand-list, i, 1869, 353, no. 5353.

[*Myiozetetes*] *texensis* (not *Muscicapa texensis* Giraud) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49, part.

Myiozetetes texensis SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 513 (Envigado, Colombia; descr. eggs).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 162, part (Chitra, Castillo, etc., Panama; Bogota; San Esteban and La Guaira, Venezuela; Trinidad).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 54 (El Pilar, Venezuela).

Myiozetetes marginatus LAWRENCE,[a] Ibis, 1863, 182 (Panama; coll. G. N. Lawrence immature); viii, 1863, 8, 486 (Panama).

[*Elainia*] *marginata* GRAY, Hand-list, i, 1869, 353, no. 5360.

Myiozetetes similis superciliosus (not *Tyrannus superciliosus* Bonaparte) BANGS, Proc. New Engl. Zool. Club, ii, Sept. 20, 1900 (Loma del Leon, Panama); Auk, xviii, 1901, 363 (Divala and David, Panama).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 219 (Sabana de Panama).

[*Myiozetetes*] *similis* (not *Muscicapa similis* Spix) SHARPE, Hand-list, iii, 1901, 126, part.

MYIOZETETES GRANADENSIS Lawrence.

GRAY-CAPPED FLYCATCHER.

Adult male.—Pileum and hindneck gray, passing into white on forehead and supraloral region, the crown with a median concealed elongated patch of reddish orange or orange-red; back, scapulars, rump,

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Ecuador; Cosnipata, s. Peru; Pebas, e. Peru).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 9 (Foresta del Rio Peripa, w. Ecuador.——*Myiozetetes cayennensis* (not *Muscicapa cayanensis* Linnæus) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1869, 598 (Cosnipata, Peru).

[a] Doctor Sclater (Cat. Birds Brit. Mus., xiv, 1888, 160) allocates this name to the synonymy of *M. cayanensis*. This is an error, however, as I am able to decide by examination of the type.

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and lesser wing-coverts plain olive-green; upper tail-coverts dusky or dark olive margined with paler olive or olive-green; wings (except lesser coverts) and tail dusky grayish brown, the rectrices edged with light olive, the remiges and greater wing-coverts edged with light yellowish olive, the middle wing-coverts margined terminally with the same or with light grayish olive; loral, suborbital, and auricular regions dusky; malar region, chin, and throat white or yellowish white, the first tinged or indistinctly streaked with grayish; rest of under parts, including axillars and under wing-coverts, bright canary or lemon yellow, the sides of chest more or less tinged with olive; bill, legs, and feet black; iris brown; length (skins), 151–173 (160); wing, 81–90 (86.6); tail, 66–72 (69.7); exposed culmen, 13–15 (14); tarsus, 16.5–19 (18.1); middle toe, 12–14 (13).[a]

Adult female.—Similar to the adult male, but without orange on crown or else with a much smaller patch of this color;[b] length (skins), 149–163 (155); wing, 80–88 (82.6); tail, 64–70 (66.9); exposed culmen, 13–15 (13.8); tarsus, 17–18.5 (17.7); middle toe, 12.5–13.5 (12.9).[c]

Young.—Essentially like adults but pileum and hindneck grayish olive-green, rectrices broadly edged (on both webs) with tawny, middle wing-coverts margined with light tawny brown or cinnamon, greater coverts and secondaries edged with the same (paler and more yellowish on inner secondaries or "tertials") and yellow of under parts slightly paler.

Honduras,[d] Nicaragua (Chontales; Blewfields; Rio Escondido; Los Sábalos; Sucuyá), Costa Rica (Navarro; Sipurio; Orosí; Jiménez; Pigres), Panama (Loma del Leon; San Pablo Station; Divala; Bogaba), Colombia (Bogota), Venezuela (Orinoco district), Ecuador

[a] Ten specimens.

[b] In eight out of eleven adult specimens sexed as females there is not a trace of orange on the crown, while in three there is a very small area of this color. In twelve adult males all but one have a large concealed patch of orange, one having none at all. This specimen I suspect to be a female with sex wrongly determined.

[c] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Nicaragua (1) and Costa Rica (5)	86.9	69.5	13.8	18.4	13.2
Six adult males from Panama	86.3	69.9	14.2	17.8	12.9
FEMALES.					
Three adult females from Costa Rica	85.3	69.2	14	18	13.2
Seven adult females from Panama	81.5	66	13.8	17.6	12.8

[d] According to Sclater, Proc. Zool. Soc. Lond., 1871, 754.

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(near Quito; Chimbo; Rio Coca) and eastern Peru (Yurimaguas; Tarapoto).

Myiozetetes granadensis LAWRENCE, Ibis, Jan., 1862, 11 (Lion Hill, Panama R. R.; coll. G. N. Lawrence); Ann. Lyc. N. Y., vii, 1862, 473 (do.); ix, 1868, 112 (Orosí, Costa Rica).—SCLATER, Cat. Am. Birds, 1862, 219 (Bogota); Proc. Zool. Soc. Lond., 1871, 751, 754 (monogr.; Honduras; Panama; Bogota; w. Peru); Cat. Birds Brit. Mus., xiv, 1888, 163 (Chontales, and Blewfields R., Nicaragua; Chiriqui, Veragua, Panama, and San Pablo Station, Panama; Bogota; Peru).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 Isthmus Panama; crit.); 1867, 279 (Blewfields R., Nicaragua; crit.); 1869, 598 (Peru).—FRANTZIUS, Journ. für Orn., 1869, 307 (Orosí, Costa Rica).—SALVIN, Ibis., 1872, 313, 318 (Chontales, Nicaragua).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1882, 20 (Yurimaguas, e. Peru); Orn. du Pérou, ii, 1884, 276.—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 556 (Chimbo, w. Ecuador; crit.).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 384 (Sucuyá, Nicaragua); vi, 1884, 402 (Los Sábalos, Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 42.—BERLEPSCH, Journ. für Orn., 1889, 302 (Tarapoto, n. e. Peru; crit.).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 72 (Quito, Ecuador).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Escondido, Nicaragua).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 21 (Loma del Leon, Panama); iii, 1902, 37 (Bogaba, Panama).—GOODFELLOW, Ibis, 1901, 705 (Rio Coca, Ecuador; habits).

Myiozetetes granadensis subsp.? BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 46 (Orinoco district; crit.).

[*Myiozetetes*] *granadensis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 49.—SHARPE, Hand-list, iii, 1901, 126.

[*Elainia*] *granadensis* GRAY, Hand-list, i, 1869, 353, no. 5357.

Myiozetetes icterophrys HEINE, Journ. für Orn., ix, May, 1861, 197 (Baranquilla, Colombia; coll. Heine Mus.).

[*Elainia*] *icterophrys* GRAY, Hand-list, i, 1869, 353, no. 5359.

Genus PIPROMORPHA Bonaparte.

Pipromorpha BONAPARTE, Ann. Sci. Nat., Zool., i, 1854, 134 (ex Schiff, manuscript). (Type, *Mionectes oleagineus* Cabanis.)

Small Tyrannidæ (wing about 60–68 mm.) with slender bill (its width at anterior end of nostrils equal to not more than half the distance from nostril to tip of maxilla, and not conspicuously greater than its depth at same point); rictal bristles very weak; nostril broadly oval, overhung by narrow membrane and inclosing a large and very distinct oblique flange or shelf; ninth primary normal, and coloration plain olive-green above (the head sometimes grayish) pale cinnamon or ocher-yellowish beneath, passing into grayish or light yellowish olive on throat.

Bill about half as long as head, narrow, tapering slightly in lateral but conspicuously in vertical profile, its width at anterior end of nostrils equal to not more than half the distance from nostril to tip of maxilla, and not conspicuously greater than its depth at same point; exposed culmen longer than middle toe without claw, distinctly, sometimes sharply, ridged, straight for most of its length, rather

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abruptly decurved terminally, the tip of maxilla moderately and rather finely uncinate; gonys longer than mandibular rami, slightly convex, ascending terminally; maxillary tomium straight, distinctly notched subterminally. Nostril exposed, longitudinally broadly oval, with more or less distinct though never broad superior membrane, and inclosing a large and very distinct internal oblique shelf or flange. Rictal bristles obvious but small and weak, the feathers of chin and frontal antiæ with distinct bristle-like points. Wing rather long, the longest primaries exceeding secondaries by about (slightly more or less than) exposed culmen; sixth and seventh, or sixth, seventh, and eighth primaries longest, ninth equal to or longer than fifth (its shape normal), the tenth (outermost) equal to third or fourth. Tail much more than three-fourths as long as wing, even, the rectrices rather broad. Tarsus slightly more to decidedly less than one-fourth as long as wing, rather stout, its scutella sometimes distinct, sometimes fused, typically exaspidean; middle toe, without claw, much more than half as long as tarsus, its basal phalanx united to outer toe for whole or much the greater part of its length, to inner toe for about half its length; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux about as long as inner toe but much stouter, its claw shorter than the digit; all the claws rather large, moderately curved, sharp, and compressed.

Coloration.—Above plain olive-green, the pileum and hindneck (in one species upper back also) sometimes slate-gray; under parts pale cinnamon or ocher-yellowish posteriorly, grayish or light greenish olive anteriorly.

Range.—Southern Mexico to Guiana, Ecuador, southeastern Brazil, and Argentina. (Five species.)

KEY TO THE SPECIES AND SUBSPECIES OF PIPROMORPHA.

a. Back olive-green, like rump, etc., the pileum and hindneck also olive-green or else but slightly more grayish than back.

b. Pileum and hindneck olive-green, concolor with back, etc., under parts of body light wax yellow or buffy naples yellow to gallstone yellow or ocher yellow, changing gradually into ochraceous-olive on throat (the chin and upper throat sometimes grayish).

c. Chin and upper throat grayish, passing into ochraceous-olive on chest, this into light wax yellow or buffy naples yellow on abdomen, etc.; middle and greater wing-coverts without distinct, if any, buffy or ochraceous tip; upper tail-coverts olive-green, like back, etc.; bill and feet relatively larger. (*Piptomorpha assimilis.*)

d. Larger (male averaging wing 67.9, tail 53.6; female, wing 65, tail 52.3); olive-green of upper parts duller, under parts of body more buffy yellowish. (Southern Mexico to Honduras).... **Pipromorpha assimilis assimilis** (p. 454)

dd. Smaller (male averaging wing 63.8, tail 48.2; female, wing 60, tail 45.3); olive-green of upper parts brighter, under parts of body more wax-yellowish. (Nicaragua to Panama.)..... **Pipromorpha assimilis dyscola** (p. 455)

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cc. Chin and upper throat olive, like chest, passing into deeper ocher-yellowish on under parts of body; middle and greater wing-coverts distinctly tipped with buff or ochraceous; upper tail-coverts ocher-yellowish, different from olive-green of back; bill and feet relatively smaller. (*Pipromorpha oleaginea.*)

d. Above duller and darker olive-green, with upper tail-coverts slightly more ochraceous; under parts of body more ochraceous. (Brazil to Cayenne, Venezuela, and eastern Peru.)

Pipromorpha oleaginea oleaginea (extralimital).[a]

dd. Above lighter and brighter olive-green, with upper tail-coverts strongly ochraceous, in distinct contrast; under parts more yellowish. (Panama and Santa Marta district of Colombia.)

Pipromorpha oleaginea parca (p. 457)

bb. Pileum and hindneck dull slate-gray tinged with olive, abruptly (but not conspicuously) different from olive-green of back; under parts of body ochraceous-buff, this rather abruptly defined against olive and gray of chest and throat. (Southern Brazil and northern Argentina.)

Pipromorpha rufiventris (extralimital).[b]

aa. Back (together with pileum and hindneck) clear slate-gray, in conspicuous and abrupt contrast with olive-green of rump and upper tail-coverts. (Costa Rica.)

Pipromorpha semischistacea (p. 458)

PIPROMORPHA ASSIMILIS ASSIMILIS (Sclater).

MEXICAN PIPROMORPHA.

Adults (*sexes alike*).—Above plain greenish olive, darker and duller (less greenish) on pileum and hindneck; wings and tail dark grayish brown or dusky olive with olive-green edgings, the inner secondaries (tertials) margined terminally with buffy; sides of head, chin, and throat dull gray, tinged with olive, passing into more decided olive hue on chest; under parts of body light buffy ochre yellow or dull ochraceous maize yellow, tinged or obsoletely streaked on breast,

[a] *M[uscicapa] oleaginea* Lichtenstein, Verz. Doubl., 1823, 55 (Bahia, e. Brazil; coll. Berlin Mus.).—*Mionectes oleagineus* Cabanis, in Tschudi's Fauna Peruana, Aves, 1845, 148, footnote (Brazil; Cayenne); Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 482; Sclater, Cat. Am. Birds, 1862, 213, part (in synonymy); Cat. Birds Brit. Mus., xiv, 1888, 112, part (Pará, Guia, Borba, and Bahia, Brazil).—*P[ipromorpha] oleaginea* Cabanis and Heine, Mus. Hein., ii, 1859, 55 (Peru; Surinam; Cayenne).—*Elainea oleaginea* Hartlaub, Verz. Mus. Brem., 1844, 52.—*Muscicapara oleaginea* D'Orbigny, Voy. Amer. Mérid., Ois., 1839, 323.—*M[uscicapa] chloronotus* D'Orbigny and Lafresnaye, Mag. de Zool., 1837 (Synopsis Avium, p. 51) (Yuracares, Bolivia; ex *M. chloronotis* Lesson, Traité d'Orn., 1831, 392=nomen nudum!).—[*Mionectes oleagineus*] b. Subsp. *typica* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 113, part.

Specimens from Venezuela, Trinidad, and Tobago have the throat more distinctly and more extensively olivaceous, besides presenting other differences, and probably should be separated subspecifically from those of eastern Brazil. An example from Pebas, eastern Peru, on the other hand, seems to be indistinguishable from Bahia specimens.

[b] *Mionectes rufiventris* Cabanis, in Tschudi's Fauna Peruana, Aves, 1845, 148, footnote (Brazil; coll. Berlin Mus.; ex *Muscicapa rufiventris* Lichtenstein, manuscript); Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 482; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 114.—*Hemitriccus barbarenæ* Bertoni, Aves Nueves Parag., 1901, 124.

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sides, and flanks with light olive; axillars and under wing-coverts plain buff; maxilla black or blackish brown, mandible light brown basally, dusky or blackish terminally; legs and feet dusky horn color (in dried skins).

Young.—Similar to adults but under parts of body more buffy.

Adult male.—Length (skins), 123–130 (128); wing, 63–70 (67.9); tail, 51.5–55 (53.6); exposed culmen, 12–13.5 (12.9); tarsus, 16–17 (16.6); middle toe, 9–10.5 (9.7).[a]

Adult female.—Length (skins), 125–134 (129); wing, 65; tail, 50.5–54 (52.3); exposed culmen, 12.5–13.5 (13); tarsus, 16; middle toe, 9.5–10 (9.7).[b]

Southern Mexico, in State of Vera Cruz (Cordova; Jalapa; Orizaba; Mirador; Buena Vista; Potrero) and Tabasco (Teapa), through Guatemala (Choctum; Cajabon; Coban; Naranjo; Lanquin; Volcan de Agua; Retalhuleu) and British Honduras (Belize) to Honduras (San Pedro).

Mionectes oleaginus (not *Muscicapa oleaginea* Lichtenstein) SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz; crit.).

Mionectes oleagineus SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 112, part (Mexico; Coban, Retalhuleu, and Volcan de Agua, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 22, part (Cordova, Jalapa, etc., Vera Cruz; Teapa, Tabasco; Belize, British Honduras; Choctum, Coban, Lanquin, Volcan de Agua, and Retalhuleu, Guatemala; San Pedro, Honduras).

Mionectes assimilis SCLATER, Proc. Zool. Soc. Lond., 1859, 46 (Cordova, Vera Cruz, Mexico; coll. P. L. Sclater), 366 (Jalapa, Vera Cruz); Ibis, 1859, 445 (Cordova; Guatemala); Cat. Am. Birds, 1862, 213 (Coban, Guatemala; Mexico).—SALVIN and SCLATER, Ibis, 1859, 124, 445 (Guatemala); Proc. Zool. Soc. Lond., 1870, 837 (San Pedro, Honduras).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 556 (tierra caliente of Vera Cruz).

[***Mionectes***] ***assimilis*** SHARPE, Hand-list, iii, 1901, 114, part.

[***Elainia***] ***assimilis*** GRAY, Hand-list, i, 1869, 355, no. 5384.

Mionectes oleagineus assimilis (not of Richmond, 1893) CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 31 (Jalapa, Vera Cruz; crit.).

M[***ionectes***] ***oleagineus assimilis*** HARTERT, Novit. Zool., ix, 1902, 607, in text.

[***Mionectes oleagineus***] a. Subsp. ***assimilis*** SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 113, part (Mexican, Guatemalan, and British Honduran references and localities).

[***Pipromorpha***] ***assimilis*** HEINE and REICHENOW, Nom. Mus. Hein., 1890, 141 (Cordova, Vera Cruz).

PIPROMORPHA ASSIMILIS DYSCOLA (Bangs).

PANAMA PIPROMORPHA.

Similar to *P. a. assimilis*, but smaller, olive-green of upper parts brighter, and under parts of body more wax yellowish.

Adult male.—Length (skins), 112–124 (118); wing, 58.5–67.5 (63.8);

[a] Seven specimens from Mexico. [b] Two specimens from Mexico.

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tail, 45.5–53 (48.2); exposed culmen, 11.5–13 (12.5); tarsus, 14.5–16 (15.5); middle toe, 9–10 (9.2).[a]

Adult male.—Length (skins), 106–122 (114); wing, 58–63.5 (60); tail, 43–50 (45.3); exposed culmen, 12–13 (12.4); tarsus, 14.5–15.5 (14.9); middle toe, 9–9.5 (9.2).[b]

Nicaragua (Greytown; Rio Escondido; Los Sábalos), Costa Rica (Angostura; Pacuarito; Matina; Val; Guayabal; San Mateo; Guaitil; Turrialba; Payua; Volcan de Miravalles; Bonilla; Jiménez; Pozo Azul de Pirris; Pozo del Pital) and northern Panama (Divala; Bogaba; Boquete de Chitra; Calovevora; Santa Fé de Veragua).

Mionectes oleagineus SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Santa Fé de Veragua, Panama); 1870, 196 (Bugaba, Boquete de Chitra, and Calovevora, Veragua).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 89, 111 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San Mateo, Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 402 (Los Sábalos, Nicaragua).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 112, part (Guaitil and Turrialba, Costa Rica; Calovevora and Santa Fé de Veragua, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 22, part (Nicaraguan, Costa Rican, and Panaman localities and references).—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).

Mionectes assimilis (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 111 (Angostura, Guaitil, and Payua, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).

[*Mionectes*] *assimilis* SHARPE, Hand-list, iii, 1901, 114, part (Costa Rica).

[*Mionectes oleagineus.*] a. Subsp. *assimilis* SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 113, part (Guaitil and Turrialba, Costa Rica; Calovevora, Santa Fé de Veragua, etc., Panama).

Mionectes oleagineus assimilis RICHMOND, Proc. U. S. Nat. Mus., xvi, Oct. 4, 1903, 505, (Greytown and Rio Escondido, Nicaragua).

Mionectes assimilis dyscolus BANGS, Auk, xviii, Oct., 1901, 362 (Divala, Chiriqui, Panama; coll. E. A. and O. Bangs).

[a] Thirteen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males (*P. a. assimilis*) from southern Mexico	67.9	53.6	12.9	16.6	9.7
Ten adult males from Nicaragua (2) and Costa Rica (8)	64.4	48.9	12.4	15.6	9.3
Three adult males from Panama (Divala)	61.8	46.3	12.8	15.2	9
FEMALES.					
Two adult females (*P. a. assimilis*) from southern Mexico	65	52.3	13	16	9.8
Eight adult females from Costa Rica	59.8	44.6	12.3	14.9	9.2
Three adult females from Panama (Divala)	60.8	47.3	12.7	15	9.2

Specimens from Costa Rica and Nicaragua are intermediate but on the whole nearer the Panama form than to the typical form of southern Mexico.

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PIPROMORPHA OLEAGINEA PARCA (Bangs).

BANGS' PIPROMORPHA.

Similar to *P. o. oleaginea*,[a] but olive-green of upper parts lighter and brighter (more yellowish), upper tail-coverts more conspicuously ochraceous, and under parts more yellowish.

Adults (*sexes alike*).—Above plain olive-green, sometimes slightly darker and duller on pileum; upper tail-coverts olive-ochraceous or light ochraceous-olive in distinct contrast with olive-green of rump and back; tail broccoli brown or hair brown, the outer webs of rectrices edged with pale olive-green or light ochraceous-olive; wings deep olive or olive-greenish, with light yellowish olive edgings, the middle and greater coverts broadly tipped, the inner secondaries broadly edged terminally with yellowish buff or buff-yellowish; sides of head, chin, and throat light grayish olive, more or less tinged with yellowish olive, passing gradually into light yellowish ochraceous or ochraceous-yellow on lower parts of body, the chest and sides tinged or obsoletely streaked with pale olive; axillars and under wing-coverts clear deep buff; maxilla brownish black, mandible with basal half (approximately) pale brown (in dried skins), blackish or dusky terminally; legs and feet pale horn color (in dried skins).

Adult male.—Length (skins), 106–117 (111); wing, 58–62 (59.7); tail, 43–47.5 (45.2); exposed culmen, 10.5–12 (11.1); tarsus, 14–15 (14.4); middle toe, 8–9 (8.5).[b]

Adult female.—Length (skins), 110–121 (113); wing, 55.5–61.5 (58.5); tail, 41.5–48.5 (44.3); exposed culmen, 11–11.5 (11.1); tarsus, 13.5–15 (14.3); middle toe, 7.5–9 (8.4).[c]

[a] See p. 454. [b] Ten specimens. [c] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Panama	59.8	45.6	11	14.4	8.5
Two adult males from San Miguel Island, Bay of Panama	61.3	47.3	11.8	14.3	8.8
Four adult males from Colombia (Santa Marta)	59	43.9	10.9	14.6	8.4
Four adult males (*P. o. oleaginea*) from Venezuela	61.5	47.4	11.1	14.9	8.3
Two adult males (*P. o. oleaginea*) from Trinidad	63.3	47.3	12.5	15.5	9
FEMALES.					
Two adult females from Panama	58.5	44	11.3	14.3	8.8
One adult female from San Miguel Island	61.5	48.5	11	.....	.....
Three adult females from Colombia (Santa Marta)	57.5	43.2	11	14.3	8.2
Four adult females (*P. o. oleaginea*) from Venezuela	57.8	46.3	11.1	14.6	8.4
Two adult females (*P. o. oleaginea*) from Trinidad	59.5	44.5	12	15.8	9.5

I am not able to distinguish satisfactorily specimens from the line of the Panama Railway and San Miguel Island from those from the Santa Marta district of Colombia; but placing these all together I have no difficulty in recognizing them as different from examples from Venezuela, Brazil, and other parts of South America. The South American representatives of the species require careful revision.

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Southern Panama (Loma del Leon; Panama City; San Miguel Island) and Colombia (Bonda; Santa Marta; Bogota).

Mionectes oleagineus (not *Muscicapa oleaginea* Lichtenstein) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (Panama; crit.); 1879, 512 (Remedios, Colombia).—BERLEPSCH, Journ. für Orn., 1884, 299 (Bucaramanga, Colombia).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 112, part.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 22, part (Lion Hill, Panama; Colombia).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 136 (Santa Marta, Colombia).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 149 (Bonda, etc., Santa Marta, Colombia).

Mionectes oleaginus oleaginus THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, Sept., 1905, 151 (San Miguel Island, Bay of Panama; crit.).

Mionectes assimilis (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328 (Lion Hill, Panama).

Mionectes oleagineus parcus BANGS, Proc. New Engl. Zool. Club, ii, Sept. 20, 1900, 20 (Loma del Leon, Panama; coll. E. A. and O. Bangs).

[*Mionectes*] *parcus* SHARPE, Hand-list, iii, 1901, 114.

[*Mionectes oleagineus.*] a. Subsp. *assimilis* SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 113, part (Panama).

PIPROMORPHA SEMISCHISTACEA (Cherrie).

CHERRIE'S PIPROMORPHA.

Adult female.[a]—Pileum, hindneck, back (except extreme lower portion), scapulars, and lesser wing-coverts uniform clear slate-gray, the sides of head and neck similar but slightly lighter gray; extreme lower back and posterior scapulars, rump, and upper tail-coverts plain olive-green, in strong and abrupt contrast with slate-gray of back; wings and tail deep grayish brown or olive with olive-green edgings, then becoming pale yellowish, and broader, on terminal portion of inner secondaries; chin and throat gray (similar to but slightly lighter and duller than color of sides of head and neck) the feathers with very indistinct paler shaft-streaks; gray of throat passing on lower throat and chest into ochraceous-olive; rest of under parts light buff-yellow, the breast obsoletely streaked and sides tinged with pale olive; axillars and under wing-coverts clear yellowish buff; maxilla brownish black, mandible pale brown becoming dusky terminally; legs and feet yellowish horn color (in dried skin); length (skin), 126.5; wing, 59.5; tail, 45; tarsus, 15.5; middle toe, 8.5.[b]

Eastern Costa Rica (Guayabal, near Turrialba).

Mionectes semischistaceus CHERRIE, Proc. U. S. Nat. Mus., xv, no. 888, Mar. 25, 1892, 27 (Guayabal, Costa Rica; coll. U. S. Nat. Mus.).

[*Mionectes*] *semischistaceus* SHARPE, Hand-list, iii, 1901, 114.

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[a] The adult male as yet unknown.

[b] One specimen, the type (no. 124616, coll. U. S. Nat. Mus.).

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Genus MIONECTES Cabanis.

Mionectes CABANIS, Wiegmann's Archiv. für Naturg., 1844, pt. i, 275. (Type, *Muscicapa striaticollis* D'Orbigny and Lafresnaye.)

Similar to *Pipromorpha* Bonaparte, but ninth primary abnormally reduced and attenuated, not longer than tenth, subfalcate or spatulate terminally; tail relatively shorter, never much more (sometimes less) than three-fourths as long as wing; under parts sulphur yellow, streaked anteriorly with olive.

Bill about half to two-thirds as long as head, narrow, tapering slightly in lateral but conspicuously in vertical profile, its width at anterior end of nostrils equal to not more than half the distance from nostril to tip of maxilla and not conspicuously greater than its depth at same point; exposed culmen a little longer than middle toe without claw, sharply ridged, straight for most of its length, rather abruptly and strongly decurved terminally, the tip of maxilla moderately and rather finely uncinate; gonys longer than mandibular rami, faintly convex, ascending terminally; maxillary tomium straight, distinctly notched subterminally. Nostril exposed, rather large, longitudinally broadly oval or broadly elliptical, margined above by narrow membrane and inclosing a large and very distinct oblique shelf or flange (cartilaginous?). Rictal bristles obvious but very small and weak, the feathers of chin and frontal antiæ with distinct though small bristle-like points. Wing rather long and pointed, the longest primaries exceeding secondaries by more than length of middle toe without claw; sixth or sixth and seventh primaries longest, tenth (outermost) equal to third or fourth, ninth not longer (sometimes decidedly shorter) than tenth, very narrow, the terminal half abruptly attenuated, somewhat expanded and recurved terminally (*M. olivaceus*) or slender-attenuate and recurved terminally (*M. striaticollis*). Tail very slightly more than three-fourths as long as wing (*M. olivaceus*) or decidedly less than three-fourths as long (*M. striaticollis*), even or very faintly double-rounded, the rectrices firm and rather broad. Tarsus about one-fourth as long as wing, moderately slender or rather stout, its scutellation typically exaspidean, with acrotarsial divisions sometimes distinct, sometimes obsolete; middle toe, without claw, much more than half as long as tarsus, its basal phalanx united to outer toe for whole, or nearly all, of its length, to inner toe for about half its length; outer toe, without claw, reaching to or slightly beyond middle of subterminal phalanx of middle toe, the inner slightly but decidedly shorter; hallux as long as inner toe, decidedly stouter, its claw shorter than the digit, strongly arched, sharp, the anterior claws also strongly arched and sharp.

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Coloration.—Plain olive-green above, duller (sometimes slaty) on pileum; beneath light yellow, streaked on throat, chest, and sides with olive.

Nidification.—(Unknown?)[a]

Range.—Costa Rica to Peru, Bolivia, and Venezuela. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF MIONECTES.

a. Pileum and sides of head dusky grayish, distinctly different from olive-green of back, etc. (*Mionectes striaticollis.*)

b. Chest as well as throat dusky gray streaked with white; hindneck slate color, like pileum. (Bolivia.).....**Mionectes striaticollis striaticollis** (extralimital)[b]

bb. Chest yellow, with V-shaped marks of olive; hindneck dark olive-greenish. (Peru to Colombia.).....**Mionectes striaticollis poliocephalus** (extralimital)[c]

aa. Pileum and sides of head olive-green like back. (*Mionectes olivaceus.*)

b. Olive-green of upper parts darker and duller; throat olive with very narrow streaks of paler.

c. Smaller (female averaging wing 63.3, tail 45.9, exposed culmen 12.5); throat more narrowly and much less distinctly streaked. (Costa Rica and Panama.) **Mionectes olivaceus olivaceus** (p. 461).

cc. Larger (female averaging wing 67.8, tail 52.5, exposed culmen 13.5); throat more broadly and much more distinctly streaked. (Venezuela.) **Mionectes olivaceus venezuelensis** (extralimital).[d]

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[a] Eggs white (Sclater and Salvin, Proc. Zool. Soc. Lond., 1879, 512).

[b] *M[uscicapa] striaticollis* D'Orbigny and Lafresnaye, Mag. de Zool., 1837, Synopsis Avium, i, p. 51 (Yuracares, Bolivia).—*Muscicapara striaticollis* D'Orbigny, Voy. Amer. Merid., Ois., 1839, 323, pl. 35, fig. 2 (Yuracares and Yungas, Bolivia).—[*Mionectes*] *striaticollis* Bonaparte, Consp. Av., i, 1850, 187.—*Mionectes striaticollis* Sclater and Salvin, Proc. Zool. Soc. Lond., 1879, 613 (Yungas, Yuracares, and Tilotilo, Bolivia); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 111, part (Tilotilo, Bolivia).—[*Elainia*] *striaticollis* Gray, Hand-list, i, 1869, 354, no. 5382.

[c] *M[ionectes] poliocephalus* Tschudi, Fauna Peruana, Aves, 1845–6, 148, pl. 10, fig. 1 (Peru).—*Mionectes striaticollis* (not *Muscicapa striaticollis* D'Orbigny and Lafresnaye) Sclater, Proc. Zool. Soc. Lond., 1859, 144 (Pallatanga, Ecuador); 1860, 93 (Nanegal, w. Ecuador); Cat. Am. Birds, 1862, 213, part (Bogota, Colombia); Cat. Birds Brit. Mus., xiv, 1888, 111, part (Tamiapampa, Peru; Medellin, Santa Elena, and Bogota, Colombia); Taczanowski, Proc. Zool. Soc. Lond., 1874, 535 (Paltaypampa and Monterico, centr. Peru); 1879, 233 (Tambillo, n. Peru); 1882, 19 (Chirimoto, Tamiapampa, and Huambo, n. e. Peru); Orn. du Pérou, ii, 1884, 244; Sclater and Salvin, Proc. Zool. Soc. Lond., 1879, 512 (Santa Elena, Colombia); Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1884, 296 (Sarupata and Chaguarcata, w. Ecuador); Taczanowski and Berlepsch, Proc. Zool. Soc. Lond., 1885, 90 (Mapoto, Machay, and Baños, Ecuador), 120 (Pallatanga, w. Ecuador); Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1896, 362 (Garita del Sol, La Gloria, and Puyas-Yacu, Peru; crit.).—*M[ionectes] olivaceus* (not of Lawrence) Berlepsch, Proc. Zool. Soc. Lond., 1885, 115 (Ecuador).

It is not unlikely that the Colombian birds are separable, the two specimens examined having the throat considerably darker than a Peruvian specimen.

[d] *Mionectes striaticollis* (not *Muscicapa striaticollis* D'Orbigny and Lafresnaye) Sclater and Salvin, Proc. Zool. Soc. Lond., 1868, 628 (Venezuela).—*Mionectes olivaceus* (not of Lawrence) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 112, part (San Esteban, Venezuela).—*Mionectes olivaceus venezuelensis* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 116 (Guacharo, Venezuela; coll. Am. Mus. N. H.).

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bb. Olive-green of upper parts lighter and brighter; yellow of under parts brighter; throat yellowish, streaked with olive. (Colombia.)

Mionectes olivaceus galbinus (extralimital).[a]

MIONECTES OLIVACEUS OLIVACEUS Lawrence.

OLIVACEUS MIONECTES.

Adult male.—Above plain greenish olive or dull olive-green, duller and slightly darker on pileum; wings and tail grayish brown with olive-green edgings, the middle wing-coverts and outer webs of greater coverts greenish olive with more or less distinct terminal margins of light yellowish olive or buffy olive; sides of head and neck greenish olive, the former relieved by a short and rather indistinct postocular streak of pale yellowish olive or olive-whitish and narrow shaft-streaks of same on auricular region; chin, throat, and upper chest rather light olive, narrowly streaked with pale olive-yellowish; rest of under parts light yellow (pale citron yellow or sulphur yellow), the sides and flanks streaked with greenish olive; axillars and under wing-coverts, light cream-yellow; bill dark brown or brownish black, the basal half (more or less) of mandible pale brownish (in dried skins); legs and feet horn brown (in dried skins); length (skins), 122–131 (127); wing, 65–70.5 (69.1); tail, 49.5–52 (50.6); exposed culmen, 12–13.5 (12.6); tarsus, 16–17.5 (16.7); middle toe, 9.5–10.5 (10.2).[b]

Adult female.—Similar in coloration to the adult male but ninth primary of normal form (not attenuated) and decidedly longer than tenth; length (skins), 113–123 (117); wing, 60–68 (62.6); tail, 42.5–50.5 (45.4); exposed culmen, 11–13.5 (12.4); tarsus, 15.5–17 (16.7); middle toe, 9–10.5 (9.9).[c]

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[a] *Mionectes olivaceus* (not of Lawrence) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 112, part (Bogota, Colombia); Bangs, Proc. Biol. Soc. Wash., xii, 1898, 158 (Pueblo Viejo, Santa Marta, Colombia); Allen, Bull. Am. Mus. N. H., xiii, 1900, 149 (Minca, etc., Santa Marta).—*Mionectes olivaceus galbinus* Bangs, Proc. New Engl. Zool. Club, iii, Mar. 31, 1902, 85 (La Concepcion, Santa Marta, Colombia, 3,000 ft. alt.; coll. E. A. and O. Bangs).

Not having seen specimens from Ecuador and Peru I am unable to express an opinion as to whether the references to *M. olivaceus* from those countries pertain to the present form or one still different. They certainly can not belong to true *M. olivaceus*.

[b] Seven specimens.

[c] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Costa Rica	67.8	50.5	12	16	9.5
Five adult males from Panama (Boquete, Chiriqui)	67.9	50.7	12.7	16.8	10.3
FEMALES.					
Six adult females from Costa Rica	62.8	45.8	12.1	16.3	9.8
Four adult females from Panama (Boquete)	62.2	44.5	12.9	16.4	10

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Young.—Essentially like adults but streaks on throat and chest obsolete and yellow of abdomen, etc., duller (more buffy).

Costa Rica (Barranca; Dota; San Mateo; Buena Vista; Naranjo; Azahar de Cartago; Cariblanco de Sarapiqué; Las Cuadras de Mojon; Carillo), and Panama (Loma del Leon; Panama City; Boquete; Calovevora; Chitra; Volcan de Chiriqui).

Mionectes striaticollis (not *Muscicapa striaticollis* D'Orbigny and Lafresnaye) LAWRENCE, Ann. Lyc. N. Y., viii, 1862, 328 (Lion Hill, Panama R. R.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (Lion Hill; crit.).

Mionectes olivaceus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, 1868 (pub. Mar., 1869), 111 (Barranca and Dota, Costa Rica; coll. U. S. Nat. Mus.).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SALVIN, Ibis, 1869, 314, in text (crit.); Proc. Zool. Soc. Lond., 1870, 196 (Calovevora, Chitra, Boquete de Chitra, and Volcan de Chiriqui, Panama).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San Mateo, Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., vi, 1883, 414 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 112 (Buena Vista and Barranca, Costa Rica; Chitra, Calovevora, Volcan de Chiriqui, and Lion Hill, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 22, part (Costa Rica and Panama localities and references).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 35 (Boquete, Panama, 4,000 to 5,800 ft.).

[*Mionectes*] *olivaceus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 47, part.—SHARPE, Hand-list, iii, 1901, 114, part.

Genus LEPTOPOGON Cabanis.

Leptopogon CABANIS, Wiegmann's Archiv. für Naturg., 1844, pt. i, 275. (Type, *L. superciliaris* Cabanis.)

Small Tyrannidæ (wing about 53–71 mm.) with rather long and very narrow bill (its width at anterior end of nostrils equal to not more than half the distance from nostril to tip of maxilla, and but little more than its depth at same point), conspicuous rictal bristles, and tail equal to or longer than distance from bend of wing to end of secondaries.

Bill nearly as long as head, its upper and lower outlines approximately parallel, its lateral outlines straight and converging gradually (the vertical profile narrowly wedge-shaped), its width at anterior end of nostrils equal to not more than half the distance from nostril to tip of maxilla and but slightly exceeding its depth at same point; exposed culmen decidedly longer than middle toe without claw, indistinctly ridged, straight to near tip, where rather abruptly decurved, the tip of maxilla distinctly uncinate; gonys much longer than mandibular rami, straight or very slightly convex; maxillary tomium straight, distinctly notched subterminally. Nostril mostly exposed, longitudinally linear or narrowly elliptical, distinctly operculate. Rictal bristles well developed, about half as long as bill, the feathers of chin and frontal antiæ with distinct though slender bristle-like points. Wing rather long and pointed, the longest primaries exceeding secondaries

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by slightly more than length of exposed culmen; seventh, eighth, or sixth, seventh and eighth, primaries longest, ninth equal to or longer than fifth, tenth (outermost) shorter than first (shorter than secondaries). Tail equal to or longer than distance from bend of wing to end of secondaries, slightly rounded or double-rounded, the rectrices rather narrow basally, widening more or less terminally. Tarsus longer than middle toe with claw, much less than one-fourth as long as wing, its scutellation typically (sometimes ultra-) exaspidean, the divisions of the acrotarsium fairly distinct; middle toe, without claw, more than half as long as tarsus, its basal phalanx completely united to outer toe, about half united to inner toe; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux about as long as inner toe, slightly stouter, its claw shorter than the digit; all the claws moderately curved, sharp, compressed.

Coloration.—Above plain olive-green, the pileum sometimes black, sooty brown, or gray, the wing-coverts tipped with pale yellow, light tawny, buffy, or whitish; beneath pale yellow, more or less tinged with olive anteriorly (the throat sometimes grayish) or grayish white tinged with pale yellow posteriorly.

Nidification.—(Unknown?.[a])

Range.—Southern Mexico to Peru, Bolivia, Brazil, and Guiana. (About fifteen species and subspecies.)

KEY TO THE SPECIES LEPTOPOGON.

a. Throat and chest light olive, distinctly different from color of abdomen; pileum brown or dark slaty, conspicuously contrasted with olive-green of back; larger (wing, 58–69 mm.).

b. Pileum brown; tail olive-brownish. (Southern Mexico to Panama.)
Leptopogon pileatus (p. 463)

bb. Pileum dusky gray or slate color; tail deep grayish brown with olive-green edgings. (Costa Rica to Venezuela, Peru, and southwestern Brazil.)
Leptopogon superciliaris (p. 465)

aa. Throat and chest pale yellow, like abdomen (the chest faintly tinged with olive; pileum olive-green, concolor with back; smaller (wing less than 55 mm.). (Panama.) ..... **Leptopogon flavovirens** (p. 467)

LEPTOPOGON PILEATUS Cabanis.

BROWN-CAPPED LEPTOPOGON.

Adults (*sexes alike*).—Pileum sepia brown, fading on hindneck into olive-sepia; back, scapulars, and rump plain olive-green; upper tail-coverts and tail broccoli brown to russet-brown, the latter with russet or light olive-brown edgings; lesser wing-coverts olive; middle and

[a] Eggs immaculate white (Allen, Bull. Am. Mus. N. H., v, 1893, 153).

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greater wing-coverts dusky, broadly tipped with ochraceous, ochraceous-buff, or clay color; remiges dusky, edged with yellowish olive, the edgings broader and more yellowish on inner secondaries ("tertials"); lores pale olive-yellowish or olive-whitish, flecked with dusky; terminal portion of auricular region uniformly dusky, the anterior portion light olive with narrow shaft-streaks of pale olive-yellowish or olive-whitish; chin and throat pale grayish-olive, more or less tinged with pale yellowish, the chest rather deeper and more decidedly olive, the feathers, especially on chin and throat, with very narrow and indistinct shaft-streaks of paler; rest of under parts pale yellow (primrose to between straw and sulphur yellow), the under tail-coverts more buffy; axillars and under wing-coverts light buff-yellow or maize yellow, the inner webs of remiges edged with light orange-buff; bill dusky brown, the basal portion of mandible pale brownish or whitish (in dried skins); legs and feet brown or horn color (in dried skins).

Adult male.—Length (skins), 114–115 (114.8); wing, 63–65 (64.2); tail, 52.5–56.5 (54); exposed culmen, 13; tarsus, 14.5–16 (15.2); middle toe, 8.[a]

Adult female.—Length (skins), 122–123 (122.5); wing, 61; tail, 48.5–51.5 (50); exposed culmen, 12.5–13 (12.7); tarsus, 14.5–15.5 (15); middle toe, 8–8.5 (8.2).[b]

Southern Mexico, in States of Vera Cruz (Playa Vicente; Buena Vista), Oaxaca, and Tabasco (Teapa); Guatemala (Choctum; Gualan; Vera Paz); Honduras (according to Sclater); Costa Rica (Valza); Panama (Lion Hill; Panama City; San Pablo Station; Calovevora).

Leptopogon amaurocephalus (not of Cabanis) SCLATER, Proc. Zool. Soc. Lond., 1859, 384 (Playa Vicente, Vera Cruz); Cat. Am. Birds, 1862, 213 (Oaxaca; Honduras).—SCLATER and SALVIN, Ibis, 1860, 399 (Choctum, Guatemala; crit.); 1864, 358 (Isthmus Panama; crit.).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328 (Lion Hill, Panama R. R.).

[a] Three specimens.

[b] Two specimens, from Vera Cruz.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Vera Cruz	65	56.5	13	15	8
One adult male from Guatemala	64.5	52.5	13	16	8
One adult male from Panama	63	53	13	14.5	8

I am not able to discern any color differences between two examples from Panama and two from Vera Cruz (Buena Vista).

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Leptopogon pileatus CABANIS, Journ. für Orn., Nov., 1865 (pub. Jan., 1866), 414 (Guatemala).—SALVIN, Ibis, 1869, 319 (Valza, Costa Rica); Proc. Zool. Soc. Lond., 1870, 197 (Calovevora, Veragua).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 117 (Oaxaca, Mexico; Choctum, Guatemala; Honduras; Valza, Costa Rica; Calovevora, Veragua; San Pablo Station, Panama R. R.).—SALVIN and GODMAN, Biol. Centr. Am., Aves, ii, 1888, 25 (Teapa, Tabasco, etc.).

[*Leptopogon*] *pileatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 47.—SHARPE, Hand-list, iii, 1901, 115.

L[*eptopogon*] *amaurocephalus pileatus* ALLEN, Bull. Am. Mus. N. H., xiii, Aug. 25, 1900, 149, in text.

[*Elainia*] *pileata* GRAY, Hand-list, i, 1869, 355, no. 5388.

LEPTOPOGON SUPERCILIARIS Cabanis.

GRAY-CAPPED LEPTOPOGON.

Adults (*sexes alike*).—Pileum dusky gray or deep slate color (the feathers indistinctly darker centrally or mesially), the hindneck similar, but tinged with olive-green; back, scapulars, rump, and lesser wing-coverts plain olive-green, the upper tail-coverts similar but browner; tail deep grayish brown, the outer webs of rectrices broadly edged with olive-green; wings (except lesser coverts) dusky, the outer webs of middle and greater coverts with broad terminal spots of pale olive-yellow or buff;[a] primaries narrowly, secondaries broadly, edged with light olive-yellow or yellowish olive, these edgings much broader and clear primrose yellow on inner secondaries ("tertials"); loral and suborbital regions pale grayish or grayish white, flecked with dusky; a few whitish dots or flecks at posterior angle of eye; terminal portion of auricular region uniform black or dusky, the anterior portion light olive or grayish with narrow shaft-streaks of whitish; chin and upper throat pale olive-grayish, passing into light yellowish olive on lower throat, chest, and sides; rest of under parts light yellow (sulphur to primrose); axillars and under wing-coverts similar; inner webs of remiges rather broadly edged with yellowish white or pale buff; bill black or dusky with paler tomia, usually with tip and base of mandible also pale; iris brown;[b] legs and feet horn color or dusky in dried skins, pale bluish in life.[b]

Adult male.—Length (skins), 129–138 (133); wing, 65.5–68.5 (67.2); tail, 57–63.5 (60.4); exposed culmen, 12–14.5 (13.2); tarsus, 15–16 (15.3); middle toe, 8–9 (8.7).[c]

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[a] I am unable to explain the significance of this variation in the color of the wing-bands; but suspect that examples with these markings buff are younger birds, perhaps in the first year, though certainly not in first plumage.

[b] W. H. Phelps, manuscript.

[c] Six specimens.

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Adult female.—Length (skins), 116–132 (122); wing, 60–64.5 (61.8); tail, 51–54 (52.2); exposed culmen, 12–14 (12.9); tarsus, 14–14.5 (14.2); middle toe, 8–8.5 (8.1).[a]

Costa Rica (Guayabal; Carrillo) and Panama (Calovevora; Bogaba; Volcan de Chiriqui), and southward through Colombia (vicinity of Bogota), Ecuador (Quito; Rio Napo; Pallatanga; Sarayacu; Machay; Mapoto; Lita; Paramba) to Venezuela (Guacharo, Bermudez), Peru (Huambo; Monterico; Paltaypampa; Ropaybamba) and Bolivia (Yungas; Kawarani; Caguarani).[b]

Leptopogon superciliaris CABANIS, in Tschudi's Fauna Peruana, Aves, 1845, 161, pl. 10, fig. 2.—SCLATER, Proc. Zool. Soc. Lond., 1858, 71 (e. Ecuador); 1860, 69 (Pallatanga, w. Ecuador); Cat. Am. Birds, 1862, 214 (Rio Napo and Pallatanga, e. Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 115 (Costa Rica; Calovevora and Volcan de Chiriqui, Panama; Bogota, Colombia; Balzar Mts., Pallatanga, Sarayacu, and Rio Napo, e. Ecuador; Huambo, Peru; Kawarani, Bolivia).—SALVIN, Ibis, 1870, 115 (Veragua, Panama); Proc. Zool. Soc. Lond., 1870, 197 (Calovevora, Bogaba, and Volcan de Chiriqui, Panama; crit.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 613 (Carguarani, Province Yungas, Bolivia).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 536 (Monterico, Paltaypampa, and Ropaybamba, centr. Peru); 1882, 19 (Huambo, Peru; crit.); Orn. du Pérou, ii, 1884, 246.—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 68, 89 (Machay and Mapoto, Ecuador; crit.).—

[a] Four specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Costa Rica	67	61.4	13	15.2	8.6
Two adult males from Venezuela	67.7	58.5	14	15.5	9
FEMALES.					
Three adult females from Costa Rica	61	52	12.5	14.2	8.2
One adult female from Venezuela	64.5	54	14	14.5	8

Owing to insufficiency of material I am not able to determine whether there are constant differences in this species according to geographic area. All the specimens from Costa Rica and Panama (thirteen in number) have the wing-bands buff; of three from Venezuela two have the wing-bands pale primrose yellow, the third has them yellowish buff, this coming from the same locality and obtained at nearly the same date as one of the other two. In a specimen from Quito, Ecuador, the wing-bands are pale buffy yellow, while in one from Peru (a cotype of *L. superciliaris* Cabanis) and one from Yungas, Bolivia, they are pale primrose yellow or yellowish white. The Bolivian specimen has the under parts much paler than any of the others, the abdomen, etc., being yellowish white, the chest, etc., slightly olivaceous gray, and the upper parts are darker and duller olive-green. If these peculiarities are not the result of wearing or fading, this specimen doubtless represents a different subspecies.

[b] As stated in the footnote above, it is probable that the South American birds represent two or more forms; but not having material sufficient to enable me to define them satisfactorily, I have thought best for the present purpose to throw all the extralimital references and localities together.

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SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 24.—STONE, Proc. Ac. Nat. Sci., Phil., 1899, 306 (vicinity of Bogota, Colombia).—HARTERT, Novit. Zool., ix, 1902, 607 (Lita and Paramba, n. w. Ecuador, 3,000 to 3,500 feet.).

(?)*Leptopogon superciliaris* ALLEN, Bull. Am. Mus. N. H., ii, 1889, 85 (Yungas, Bolivia).

L[eptopogon] superciliaris BONAPARTE, Consp. Av., i, 1850, 186.—CABANIS and HEINE, Mus. Hein., ii, 1859, 55, footnote.

[Leptopogon] superciliaris SCLATER and SALVIN, Nom, Av. Neotr., 1873, 47.—SHARPE, Hand-list, iii, 1901, 114.

[Elainia] superciliaris GRAY Hand-list, i, 1869, 355, no. 5387.

L[eptopogon] poliocephalus CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 55 ("New Granada;" coll. Heine Mus.).

[Elainia] poliocephala GRAY, Hand-list, i, 1869, 355, no, 5389.

(?)*Leptopogon auritus* TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 134 (ex Jelski, manuscript; Amable Maria, centr. Peru; coll. Warsaw Mus.), 536 (Amable Maria, Pumamarca, and Ropaybamba, centr. Peru); 1882, 19 (Ray-urmana, n. e. Peru).

(?)*Leptopogon superciliaris transandeanus* BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 537 (Chimbo, w. Ecuador; ex Stolzmann, manuscript); 1885, 122. (w. Ecuador).—REICHENOW and SCHALOW, Journ. für Orn., 1886, 86 (reprint of orig. descr.).

LEPTOPOGON FLAVOVIRENS Lawrence.

YELLOW-GREEN LEPTOPOGON.

Adult male.—Above plain olive-green, the pileum slightly duller and somewhat tinged with gray; tail grayish brown (nearly hair brown) the outer webs of rectrices edged with light olive-green; wings darker grayish brown or dusky, the middle and greater coverts broadly tipped with pale primrose yellow, forming two conspicuous bands, the remiges narrowly edged with light yellowish olive-green, more broadly, and inclining to primrose yellow on inner secondaries ("tertials"); a conspicuous and uninterrupted orbital ring of white; lores grayish white; malar region and entire under parts (including axillars and under wing-coverts) pale yellow (primrose), the chest faintly tinged with olive; inner webs of remiges edged with yellowish white; maxilla brownish black or dusky horn color; mandible pale brownish (in dried skin); legs and feet horn brownish (in dried skin); length (skin), 107.5; wing, 53.5; tail, 48.5; exposed culmen, 11.5; tarsus, 17; middle toe, 8.5.[a]

Panama (near Panama City).

Tyrannula flaviventris (not of Baird) LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862, 328 (Panama R. R.; coll. G. N. Lawrence).

Leptopogon flavovirens LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862, 472 (Panama R. R.; coll. G. N. Lawrence).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 119.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 25.

[Leptopogon] flavovirens SHARPE, Hand-list, iii, 1901, 115.

[Elainia] flavovirens GRAY, Hand-list, i, 1869, 355, no. 5392.

[a] One specimen (the type).

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(?)*Capsiempis orbitalis* CABANIS, Journ. für Orn., xxi, Jan., 1873, 68 (Monterico, w. Peru; coll. Warsaw Mus.?).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 536 (Monterico); Orn. du Pérou, ii, 1884, 250.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 121.

Genus CAPSIEMPIS Cabanis and Heine.

Capsiempis[a] CABANIS and HEINE, Mus. Hein, ii, Sept., 1859, 56. (Type, *Muscicapa flaveola* Lichtenstein.)

Small Tyrannidæ (wing about 48–50 mm.), with tail equal to or longer than wing, strongly rounded, and coloration plain olive-green above (the wing with two dull yellowish bands), yellow below (tinged with olive laterally).

Bill rather shorter than head, rather broad and depressed basally, its width at anterior end of nostrils equal to more than half the distance from nostril to tip of maxilla and much greater than its depth at same point; exposed culmen shorter than middle toe with claw, distinctly ridged, curved from base, at first faintly, then more strongly, the tip of maxilla distinctly but minutely uncinate; gonys much longer than mandibular rami, slightly convex, ascending terminally; maxillary tomium nearly straight for greater part, gradually deflexed basally, distinctly notched subterminally. Nostril exposed, longitudinally oval, margined above by membrane, but not distinctly operculate. Rictal bristles well developed, more than half as long as bill, the feathers of chin and frontal antiæ with distinct bristly tips. Wing moderate, much rounded, the longest primaries exceeding secondaries by less than length of middle toe without claw; sixth, seventh, and eighth primaries longest, ninth equal to fourth, tenth (outermost) shorter than secondaries. Tail equal to or slightly longer than wing, strongly rounded, the lateral rectrices shorter than middle pair by about length of exposed culmen, the rectrices rather narrow, broadly rounded at tip. Tarsus one-third or more as long as wing, its scutellation ultra-exaspidean,[b] the acrotarsial segments very distinct; middle toe, without claw, slightly less than half as long as tarsus, its basal phalanx almost wholly united to outer toe, about one-half united to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner toe slightly but distinctly shorter; hallux as long or very nearly as long as inner toe, stouter, its claw shorter than the digit; all the claws moderately curved, sharp, compressed.

Coloration.—Above plain greenish olive, the wings and tail dusky, with greenish olive edgings (more yellowish on secondaries), the middle and greater coverts broadly tipped with pale olive; under parts yellow, faintly shaded on chest and sides with pale olive.

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[a] "Von *χάντω* (Schnappen) und *ἐμωίς* (Mücke)."

[b] The acrotarsium entirely inclosing the tarsus, its two edges in close contact along posterior inner side.

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Nidification.—Nest "shallow . . . attached to forks at the extremities of . . . bamboos, covered outwardly with green moss, and usually suspended over water."[a] Eggs unknown (?).

Range.—Nicaragua to Peru, Bolivia, Brazil, and Guiana. (Four species.[b])

KEY TO THE SPECIES AND SUBSPECIES OF CAPSIEMPIS.

a. No white orbital ring; pileum olive-green like back.
b. Darker; outer web and tip of lateral rectrix not whitish. (*Capsiempis flaveola.*)
c. Bill smaller and more obtuse at tip. (Costa Rica to southern Brazil.)
Capsiempis flaveola flaveola (p. 469)
cc. Bill larger and more pointed. (Western Ecuador.)
Capsiempis flaveola magnirostris (extralimital) [c]
bb. Paler; outer web and tip of lateral rectrix whitish. (British Guiana.)
Capsiempis caudata (extralimital) [d]
aa. A conspicuous white orbital ring; pileum dark gray, in contrast with olive-green of back. (Central Peru.).....**Capsiempis orbitalis** (extralimital) [e]

CAPSIEMPIS FLAVEOLA (Lichtenstein).

YELLOW FLYCATCHER.

Adults (sexes alike).—Above plain olive-green; tail grayish brown, the outer webs of rectrices edged with yellowish olive-green; wings dusky, the middle and greater coverts rather broadly tipped with pale yellow (forming two distinct bands), the primaries narrowly edged with yellowish olive-green, the secondaries more broadly edged with the same, the inner ones ("tertials") still more broadly edged with pale yellow; supraloral and latero-frontal regions pale yellow or yellowish white, posteriorly confluent with a rather broad crescentic mark of the same color on upper eyelid, and extended backward

[a] Richmond, Proc. U. S. Nat. Mus., xvi, 1893, 505.

[b] Of the four species recognized, I have only seen *C. floveola* (the type) from which the above diagnosis is drawn up.

[c] *Capsiempis flaveola* (not *Muscicapa flaveola* Lichtenstein) Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 537, 554 (Chimbo, n. w. Ecuador); (?) Taczanowski and Berlepsch, Proc. Zool. Soc. Lond., 1885, 90 (Yaguachi, Ecuador); (?) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 120, part (Babahoyo, Ecuador); (?) Salvadori and Festa, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 7 (Balzar, w. Ecuador).—*Capsiempis flaveola magnirostris* Hartert, Novit. Zool., v, no. 4, Dec., 1898, 487 (Chimbo, n. w. Ecuador; coll. Tring Mus.).—[*Capsiempis*] *magnirostris* Sharpe, Hand-list, iii, 1901, 117. (Not seen by me.)

[d] *Capsiempis caudata* Salvin, Bull. Brit. Orn. Club, no. xlviii, Nov. 29, 1897, p. xvi (Ourumee, British Guiana; coll. Salvin and Godman); Ibis, 1898, 154 (reprint).—[*Capsiempis*] *caudata* Sharpe, Hand-list, iii, 1901, 117. (Not seen by me.)

Since the preceding was written this species has been placed in the genus *Serpophaga* by Hellmayr (*Serpophaga caudata* Hellmayr, Novit. Zool., xiii, 1906, 323).

[e] *Capsiempis orbitalis* Cabanis, Journ. für Orn., xxi, Jan., 1873, 68 (Monterico, w. Peru; coll. Warsaw Mus.?); Taczanowski, Proc. Zool. Soc. Lond., 1874, 536 (Monterico); Orn. du Pérou, ii, 1884, 250; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 121.

The original description of this species answers very well for *Leptopogon flavovirens* Lawrence, and I suspect it may be the same.

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somewhat behind eye; lores grayish or dusky; auricular region olive-greenish, the anterior portion broken by narrow shaft-streaks of pale yellow, gradually passing into pale yellow on suborbital region; malar region and entire under parts, including axillars and under wing-coverts, canary or deep sulphur yellow, the chest usually faintly tinged with olive; maxilla dusky brown or brownish black, mandible paler, at least basally; iris brown;[a] legs and feet horn color or dusky (in dried skins), bluish olive or slate color in life.[a]

Adult male.—Length (skins), 91–116 (107); wing, 49–52 (50.5); tail, 38–50.5 (48.5); exposed culmen, 10–12 (10.9); tarsus, 14–17.5 (16.7); middle toe, 8–9.5 (8.5).[b]

Adult female.—Length (skins), 97–112 (106); wing, 44.5–51.5 (48.4); tail, 43–50.5 (46.3); exposed culmen, 10–11.5 (10.7); tarsus, 15.5–17.5 (16.5); middle toe, 8–9 (8.4).[b]

Young.—Essentially like adults, but upper parts tinged with cinnamon or russet, especially on hindneck; wing-bands tawny-buff, and texture of plumage more lax.

Nicaragua (San Carlos; Rio Escondido; Greytown), Costa Rica (Pozo Azul; Jiménez; San Juan), and Panama (Panama City; Sabana de Panama; Loma del Leon; David), and southward through Colombia (Bogota), Venezuela (Caicara; Capuchin; Maipure; Altagracia; La Pricion; Cumanacoa; Suapure), Cayenne, and lower Amazon (Mexiana) to Bolivia and southern Brazil (Bahia; Ypanema; Cantagallo; Novo Friborgo; S. Paulo).

M[uscicapa] flaveola LICHTENSTEIN, Verz. Doubl., 1823, 56 (Bahia, s. e. Brazil; coll. Berlin Mus.).

Muscipeta flaveola BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 488.

C[apsiempis] flaveola CABANIS and HEINE, Mus. Hein., ii, 1859, 56 (Brazil).

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[a] W. H. Phelps, manuscript.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Nicaragua (3) and Costa Rica (3)	50.4	47.8	10.8	17.2	8.4
Two adult males from Panama	49.8	48.8	11.3	15	8.5
Two adult males from Venezuela	51.8	50.5	11	17.3	8.8
FEMALES.					
Four adult females from Nicaragua (2) and Costa Rica (2)	47.5	44	10.4	16.4	8.1
Three adult females from Panama	47.8	47	10.7	16.7	8.3
Three adult females from Venezuela	50.3	48.8	11.2	16.7	8.8
SEX NOT DETERMINED.					
Two adults from Bahia	47.8	47.8	9.8	15.5	7.5

The series which I am able to examine is not sufficient for determining the extent and character of geographic variation (if any) in this species.

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Capsiempis flaveola SCLATER, Cat. Am. Birds, 1862, 214 (Brazil); Cat. Birds Brit. Mus., xiv, 1888, 120, part (Chiriqui, Panama; Bogota; Cayenne; Mexiana, lower Amazons; Bahia, Brazil; Bolivia).—PELZELN, Orn. Bras., ii. Abth., 1869, 104; iv. Abth., 1870, 424.—CABANIS, Journ. für Orn., 1874, 88 (Cantogallo, s. Brazil).—SALVIN, Cat. Strickland Coll., 1882, 306 (Brazil).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 28.—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 505 (Greytown and Rio Escondido, Nicaragua; habits; descr. nest and young).—KOENIGSWALD, Journ. für Orn., 1896, 357 (São Paulo, Brazil).—IHERING, Aves de S. Paulo, 1899, 190 (Ypanema, Brazil); Rev. Mus. Paul., iv, 1900, 155 (Cantagallo and Novo Friborgo, S. Paulo).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 21 (Loma del Leon, Panama).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 41 (Caicara, Capuchin, Maipure, Altagracia, and La Pricion, Venezuela).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 218 (Sabana de Panama).

[*Capsiempis*] *flaveola* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 47.—SHARPE, Hand-list, iii, 1901, 117.

[*Elainia*] *flaveola* GRAY, Hand-list, i, 1869, 355, no. 5394.

Capsiempis flavicola LANTZ, Trans. Kansas Ac. Sci. for 1896–7 (1899), 223 (San Juan, Costa Rica).

Platyrhynchus flaviventris SPIX, Av. Bras., ii, 1825, 12, pl. 15, fig. 1.

Tyrannula modesta SWAINSON, Ornithological Drawings, pt. iv, 1836?, pl. 48.

Elainea semiflava LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, Oct., 1865 (pub. 1867), 178 (David, Panama; coll. U. S. Nat. Mus.), 182 (Greytown, Nicaragua).—SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (David, Panama); Ibis, 1874, 309 (crit.).

[*Elainia*] *semiflava* GRAY, Hand-list, i, 1869, 352, no. 5334.

Genus PYROCEPHALUS Gould.

Pyrocephalus GOULD, Zool. Voy. "Beagle," iii, July, 1839, 44. (Types, "*Pyrocephalus parvirostris* (Gould) and *Muscicapa coronata* (Auct.)" = *Muscicapa rubinus* Boddaert.)

Small Tyrannidæ (wing about 52–85 mm.) with the sexes very differently colored, adult males having the whole pileum and underparts bright scarlet or orange, adult females with under parts more or less pale red or orange posteriorly and streaked on breast with grayish, young with upper parts squamated with whitish.[a]

Bill shorter than head, moderately broad and depressed basally, its width at anterior end of nostrils equal to not more than half the length of exposed culmen and less than twice its depth at same point, wedge-shaped in vertical profile, its lateral outlines nearly straight, the tip but very slightly if at all constricted; exposed culmen longer than middle toe without claw, distinctly ridged, straight to near tip where rather gradually decurved, the tip of maxilla moderately

[a] A form of western Peru (*P. obscurus* Gould) which seems to be a melanism of *P. rubinus* (Boddaert) but which some authorities consider a distinct species, is, in both sexes, wholly deep grayish brown, the only sexual difference being that the males are somewhat darker and more or less tinged with a reddish hue, sometimes with touches of bright red.

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uncinate; gonys much longer than mandibular rami, faintly convex; maxillary tomium straight, minutely but distinctly notched subterminally. Nostril partly exposed, longitudinally oval, nonoperculate. Rictal bristles moderately to rather strongly developed; feathers of chin and frontal antiæ with very distinct bristly points, and malar antiæ with distinct antrorse, semierect setæ. Wing moderate to rather long, the longest primaries exceeding distal secondaries by at least length of middle toe without claw, sometimes (in *P. mexicanus*) by much more than length of tarsus; seventh, eighth and ninth primaries longest and about equal, tenth (outermost) equal to fourth or fifth or intermediate between fifth and sixth. Tail not longer (usually a little shorter) than distance from bend of wing to end of distal secondaries, less than three-fourths to four-fifths as long as wing, even or slightly rounded, the rectrices with broadly rounded tip. Tarsus less than one-fifth (*P. mexicanus*) to much more than one-fourth (*P. nanus*) as long as wing, slightly to decidedly longer than middle toe with claw, slender, its scutellation typically exaspidean, but sometimes with a separate series of longitudinally hexagonal scutella along upper posterior margin of outer side of tarsus; middle toe, without claw, decidedly more than half as long as tarsus, its basal phalanx united to outer toe for at least half its length, to inner toe for nearly the same distance; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe slightly to decidedly shorter; hallux much shorter than inner toe, slightly stouter, its claw shorter but sometimes nearly as long as the digit; all the claws rather large, moderately curved, sharp.

Coloration.—Adult males with whole of bushy-crested pileum and entire under parts bright red (varying from scarlet to pinkish red or orange), loral and auricular regions and upper parts plain grayish brown (more or less dark); adult females with pileum grayish brown, like rest of upper parts, under parts whitish tinged with red or orange posteriorly and more or less streaked on breast with grayish; young with feathers of upper parts margined with whitish. (One form, believed to be a melanistic phase of *P. rubinus heterurus*, is entirely plain grayish brown in both sexes.)

Nidification.—Nest shallowly cup-shaped, composed of small twigs and various soft materials compactly felted together, usually ornamented exteriorly with small lichens, usually saddled upon a horizontal branch of a small tree. Eggs cream color (more or less deep) heavily spotted around larger end with dark brown, lilac-gray, etc.

Range.—Southwestern border of United States (southern Texas to Arizona) and southward through Mexico to Guatemala and British Honduras; reappearing in South America, where distributed from Colombia to Peru, Guiana, Brazil, and Argentena, and in Galapagos Archipelago. (About five species.)

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KEY TO THE SPECIES AND SUBSPECIES OF PYROCEPHALUS.

a. Under parts not uniform sooty brown or gray.

b. Pileum and under parts bright red or orange. (Adult males.)

c. Larger, with smaller feet (wing 70–88, tarsus 14.5–17). (*Pyrocephalus rubinus.*)

d. Back, etc., sooty grayish brown, not black.

e. Grayish brown of back, etc., lighter; red of under parts more orange in hue. (Southwestern United States to southern Honduras.)

Pyrocephalus rubinus mexicanus (p. 475)

ee. Brown of back, etc., darker; red of under parts more intense, less orange in hue.

f. Brown of back but little darker than in *P. r. mexicanus;* outermost rectrix rarely edged with whitish; larger. (Southern Brazil, Argentina, etc.).....**Pyrocephalus rubinus rubinus** (extralimital) [a]

ff. Brown of back, etc., decidedly darker than in *P. r. mexicanus;* outermost rectix usually with outer web whitish or edged with that color; smaller. (Colombia to Peru.)

Pyrocephalus rubinus heterurus (extralimital) [b]

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[a] ***Muscicapa rubinus*** Boddaert, Tabl. Pl. Enl., 1783, 42 (Brazil; based on Pl. Enl. 675, fig. 1).—*P[yrocephalus] rubineus* Gray, Gen. Birds, i, 1847, 250.—*Pyrocephalus rubineus* Sclater, Cat. Am. Birds, 1862, 227; Cat. Birds Brit. Mus., xiv, 1888, 211, part.—[*Pyrocephalus rubineus*] var. *rubineus* Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 387.—[*Muscicapa*] *coronata* Gmelin, Syst. Nat., i, pt. ii, 1788, 932 (based on Pl. Enl. 675, fig. 1, and *Round-crested Flycatcher* Latham, Synopsis, ii, pt. i, 362, no. 72).—*M[uscipeta] coronata* D'Orbigny and Lafresnaye, Mag. de Zool., 1837 (Synopsis Avium, p. 47).—*Muscipeta coronata* Descourtilz, Orn. Brés., 1854–56, pl. 23, fig. 5.—[*Pryocephalus*] *coronatus* Bonaparte, Consp, Av., i, 1850, 188.—*Pyrocephalus coronatus* Burmeister, Journ. für Orn., 1860, 246 (Banda Oriental and Paraná, Argentina).—*T[yrannula] coronata* Hartlaub, Syst. Verz., 1844, 50 (Brazil).—*Muscipeta strigilata* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 900 (Camamú, s. of Bahia, Brazil; =female; type now in coll. Am. Mus. N. H.; see Allen, Bull. Am. Mus. N. H,. ii, 1889, 235).—*Pyrocephalus strigilatus* Reinhardt, Vid. Med. naturh. For. Kjobenhavn, 1870 (Fugelf. Bras. Camp., p. 142).—*Pyrocephalus parvirostris* Gould, Zool. Voy. "Beagle," iii, 1841, 44, pl. 6 (La Plata, Argentina; type now in coll. Brit. Mus.).—*P[yrocephalus] parvirostris* Cabanis and Heine, Mus. Hein., ii, 1859, 67 (Rio Grande do Sul).

[b] *Pyrocephalus rubineus* (not *Muscicapa rubinus* Boddaert) Sclater, Proc. Zool. Soc. Lond., 1854, 113 (Ecuador); 1855, 149 (Bogota, Colombia); 1866, 99 (Lima, Peru, habits; crit.); Cat. Birds Brit. Mus., xiv, 1888, 211, part (Valle Dupar, Valencia, Bogota, Medellin, and Choco Bay, Colombia; Guayaquil, Babahoyo, Puna I., Intac, Sarayacu, and Santa Rita, Ecuador; Pebas, Rio Ucayali, Caterido Valley, Islay, Tambo Valley, and Payta, Peru); Sclater and Salvin, Proc. Zool. Soc. Lond., 1866, 189 (upper and lower Ucayali, e. Peru) ;1873, 186 (Cosnipata, Peru), 281 (upper and lower Ucayali and Santa Cruz, e. Peru; habits; descr. eggs); 1879, 515 (Medellin, Antioquia, Colombia; descr. nest and eggs); Salvin and Godman, Ibis, 1879, 202 (Valle Dupar, Santa Marta, Colombia); 1880, 125 (Colombia); Taczanowski, Proc. Zool. Soc. Lond., 1879, 235 (Pacasmayo and Guajango, Peru; crit.); 1880, 203 (Callacate, Peru); Berlepsch and Stolzmann, Proc Zool. Soc. Lond., 1896, 366 (La Merced, centr. Peru).—*Pyrocephalus rubineus coronatus* (not *Muscicapa coronata* Gmelin) Taczanowski, Orn. du Pérou, ii, 1884, 310.—*Pyrocephalus nanus* (not of Gould) Sclater, Proc. Zool. Soc. Lond., 1859, 46, 144 (Pallatanga, Ecuador); 1860, 282, 295 (Esmeraldas, w. Ecuador); Cat. Am. Birds, 1862, 228, excl. synonymy (Pallatanga and Babahoyo, w. Ecuador).—[*Pyrocephalus rubineus*] var. *nanus* Baird, Brewer and

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dd. Back, etc., black, or sooty black. (Venezuela.)
Pyrocephalus rubinus saturatus (extralimital).[a]

cc. Smaller, with larger feet (wing 54-67, tarsus 15.5-19).

d. Larger (wing 61–67, tail 48.5–54.5, tarsus 18–19); red of under parts more intense (bright orange-red to orange). (Galapagos Archipelago, except Chatham Island.).....**Pyrocephalus nanus** (p. 478)

dd. Smaller (wing 54–58, tail 45.5–49, tarsus 15.5–17); red of under parts paler, more pinkish. (Chatham Island, Galapagos Archipelago.)
Pyrocephalus dubius (p. 480)

bb. Pileum and under parts not bright red or orange.

c. Pileum brownish gray or grayish brown, more or less distinctly streaked with darker; back plain brownish gray or grayish brown. (Adult females.)[b]

d. Larger (wing 66–81.5, tail 47–62); under parts white, more or less tinged or suffused posteriorly with salmon color or pale orange; chest more or less conspicuously streaked with dusky.

e. Under parts duller white more distinctly streaked.

f. Darker above..**Pyrocephalus rubinus rubinus**, adult female (extralimital)

ff., Paler above.....**Pyrocephalus rubinus mexicanus**, adult female (p. 476)

ee. Under parts purer white, less distinctly streaked, often nearly immaculate.....**Pyrocephalus rubinus heterurus**, adult female (extralimital)[c]

dd. Smaller (wing 55–64, tail 45–54); under parts wholly buff, yellowish, or salmon color, or with only the throat white.

e. Larger (wing 61–64, tail 48.5–54.5, tarsus 17.5–18.5); under parts maize yellow, buff-yellow, or salmon color, the throat white.
Pyrocephalus nanus, adult female (p. 479)

Ridgway, Hist. N. Am. Birds, ii, 1874, 387 (Bogotá, Colombia; Guayaquil, w. Ecuador).—*Pyrocephalus rubineus heterurus* Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1892 (pub. Oct. 1), 381 (Lima and Ica, Peru; coll. Branicki Mus.); Hartert, Novit. Zool., v, 1898, 488 (Ibarra, n. w. Ecuador).—*Pyrocephalus rubinus* (not *Muscicapa rubinus* Boddaert) Allen, Bull. Am. Mus. N. H., xiii, 1900, 144 (Valle Dupar and Valencia, Santa Marta, Colombia).

Quite possibly those of the above references which pertain to localities on the eastern slope of the Andes (eastern Peru, etc.) may belong to *P. r. rubinus*, or at least not to *P. r. heterurus;* and it may also be that the Colombian bird is not the latter form. I have neither the material nor time, however, necessary to the proper elucidation of the extralimital forms of the genus.

[a] *P[yrocephalus] rubineus* (not *Muscicapa rubinus* Boddaert) Cabanis and Heine, Mus. Hein., ii, 1859, 67, part (Venezuela).—*Pyrocephalus rubineus* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 211, part (Venezuela; Trinidad?).—*Pyrocephalus rubinus saturatus* Berlepsch and Hartert, Novit. Zool., ix, April, 1902, 34 (Altagracia, Venezuela; coll. Count von Berlepsch.).

An adult male in the collection of the American Museum of Natural History, from Guayos, Venezuela, agrees minutely with Berlepsch and Hartert's description, and the form is exceedingly well characterized. Other Venezuelan localities mentioned by the authors cited are Puerto Cabello, Cumana, Ciudad Bolivar, Suapure, and La Pricion. It would be interesting to know whether the Guiana bird is similar to the Venezuelan bird or not.

[b] Immature males resemble adult females, but have the posterior under parts tinged or suffused with red or pink instead of orange or salmon color, the color being also deeper and more extended.

[c] I have not seen the female of *P. r. saturatus*.

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ee. Smaller (wing 55–57, tail 45–46, tarsus 16–16.5); under parts buff, the throat similar but slightly paler.

Pyrocephalus dubius, adult female (p. 480)

cc. Pileum and back brownish gray or grayish brown squamated with white or buffy. (Young.)

d. Under parts white (with or without yellow tinge posteriorly) the chest and sides more or less broadly and distinctly streaked with grayish brown or dusky.....**Pyrocephalus rubinus** and subspecies, young

dd. Under parts yellow or buffy, with or without white on throat or streaks on chest and sides.

e Throat white, in contrast with yellow of other under parts.

Pyrocephalus nanus, young (p. 479)

ee. Throat buff, like rest of under parts...**Pyrocephalus dubius**, young (p. 481)

aa. Under parts uniform sooty brown or sooty gray in both sexes. (Peru.)

Pyrocephalus obscurus (extralimital).[a]

PYROCEPHALUS RUBINUS MEXICANUS (Sclater).

VERMILION FLYCATCHER.

Adult male.—Whole pileum intense poppy red, scarlet-vermilion, or scarlet; entire under parts similar but rather lighter, sometimes varying toward orange or intermixed with that color; axillars and under wing-coverts pale brownish gray, margined and tipped with pink or light scarlet; back, scapulars, lesser wing-coverts and rump plain grayish brown (deep hair brown, sometimes of a more or less distinct purplish hue); lores and auricular region deep grayish brown, confluent with that of neck, forming a longitudinal band separating the red of pileum from that of malar region, chin, and throat; upper tail-coverts dusky; wings (except lesser coverts) and tail dusky or grayish black with deep grayish edgings, the middle and greater wing-coverts and inner secondaries ("tertials") margined terminally with pale brownish gray; outer web of outermost rectrix sometimes edged (more or less broadly) with whitish, and all the rectrices sometimes narrowly margined at tip with same; bill brownish black, the mandible more brownish basally; iris brown; legs and feet brownish black; length (skins), 121–145 (132); wing, 69.5–86 (78.9); tail, 49–62 (56.9); exposed culmen, 12–14 (12.5); tarsus, 14.5–17 (15.8); middle toe, 9–10.5 (9.7).[b]

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[a] *Pyrocephalus obscurus* Gould, Zool. Voy. "Beagle," iii, 1841, 45 (Lima, Peru; coll. Brit. Mus.); Sclater, Proc. Zool. Soc. Lond., 1859, 46; 1864, 176 (vicinity of Mexico City—doubtles an error; crit.); 1866, 99 (Lima); Cat. Am. Birds, 1862, 228; Cat. Birds Brit. Mus., xiv, 1888, 215 (Lima, Callao and Tambo Valley, Peru; Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1893, 381 (Lima and Ica, Peru).—*M[yiarchus] atropurpureus* Tschudi, Fauna Peruana, Aves, 1846, 156 (Peru).

This is almost certainly a melanism of the form of *P. rubinus* which occurs in Peru, many specimens showing more or less admixture of bright scarlet feathers on those parts which are red in the adult male of the normal phase.

[b] Thirty-eight specimens.

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Adult female.—Pileum, hindneck, auricular region, back, scapulars, lesser wing-coverts, and rump grayish brown (hair brown), the first narrowly streaked with darker; lores grayish passing into dull whitish toward forehead; upper tail-coverts dusky grayish brown; tail very dark grayish brown or dusky; wings (except lesser coverts) deep grayish brown (darker than color of back but much less so than tail) with paler grayish brown or brownish gray edgings, the middle and greater coverts and secondaries margined terminally with pale brownish gray or whitish; malar region and under parts dull white, usually passing into pale salmon color or pale orange-buff posteriorly, the chest, sides, and flanks more or less distinctly streaked with grayish brown; bill, iris, legs, and feet as in adult male; length (skins), 125–138 (131.4); wing, 66–81.5 (77.6); tail, 47–59 (55.8); exposed culmen, 12–13.5 (12.6); tarsus, 15–16.5 (15.6); middle toe, 8.5–10 (9.6).[a]

Immature male (second year?).—Similar to the adult female, but posterior under parts extensively suffused with salmon-pink or pale orange-red.

Young.—Above grayish brown, the feathers margined terminally with pale buff or whitish, producing a more or less conspicuously squamate effect; larger wing-coverts and inner secondaries conspicu-

[a] Sixteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from southern Texas	86	61	13	17	10.5
Ten adult males from Arizona	82	57.9	12.6	16.1	9.6
Three adult males from southern California	80	58.2	12.5	15.7	9.8
One adult male from southern Lower California	82	57.5	.....	15	10
Seven adult males from eastern Mexico	81.9	58.9	12.8	16.1	9.9
Three adult males from western Mexico	82.5	58.8	12.3	15.3	9.2
Seven adult males from Yucatan	74.6	54.4	13.2	15.7	9.8
Two adult males from Guatemala	72.5	54.3	12.8	15.8	9.8
Four adult males from southern Honduras (Segovia River)	70.6	51.1	13.1	15.3	9.4
FEMALES.					
Ten adult females from Arizona	79	57.5	12.8	15.7	9.7
One adult female from southern Lower California	78.5	59	12	15	9.5
One adult female from eastern Mexico (Vera Cruz)	86	62	13.5	17	10
Three adult females from western Mexico	78.5	53.7	12.2	15.5	9.5
One adult female from Guatemala	71.5	50.5	12.5	15.5	9.5
One adult female from southern Honduras (Segovia River)	66	47	13	15	9.5

Two and perhaps three geographic forms are strongly indicated by the series of specimens examined; true *P. r. mexicanus* of Mexico in general and the adjacent parts of the southwestern United States, a smaller form with larger and relatively broader bill and less orange hue of red from Yucatan and Guatemala, and a still smaller form, with red of under parts paler, from southern Honduras (Segovia River); but the material at hand is not sufficient for their satisfactory definition.

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ously margined terminally with pale buff, the remiges and outer rectrices edged with pale buff or whitish, the outer web of lateral rectrix sometimes wholly pale buff or whitish; under parts white, the chest and sides marked with elliptical streaks of brownish gray.

Southwestern United States, in southern Texas (Nueces Valley, 25 m. west of Corpus Christi; San Antonio; Brownsville; Lomita Ranch, etc.), New Mexico, southwestern Utah, Arizona (Tuscon; Cienega Station; Pueblo Viejo; Santa Rita Mountains; Huachuca Mountains; Fort Yuma), southern California (Fort Mojave; San Diego County, more rarely Los Angeles and Ventura counties), and Lower California, southward over nearly the whole of Mexico, including Yucatan (Merida; Progreso; Temax; Silam; Cozumel Island), Guatemala (Poctum; Peten district), and British Honduras (Belize) to southern Honduras (Segovia River). Accidental in northwestern Florida (Tallahassee, one specimen, March 25, 1901).

Tyrannula coronata (not *Muscicapa coronata* Gmelin) SWAINSON, Philos. Mag., i, 1827, 367 (Mexico).—WAGLER, Isis, 1831, 529 (Mexico).—LICHTENSTEIN, Preis-Verz. Mex. Vög., 1831, 2.

Pyrocephalus rubineus (not *Muscicapa rubinus* Boddaert) LAWRENCE, Ann. Lyc. N. Y., v, 1852, 115 (Texas).—CASSIN, Illustr. Birds Cal., Tex., etc., 1854, 127, pl. 18.—BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 329; Rep. Pacific R. R. Surv., ix, 1858, 201; Cat. N. Am. Birds, 1859, no. 147; Rep. U. S. and Mex. Bound. Surv., ii, pt. 2, 1859, 9 (Fort Yuma, Arizona, etc.).—SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz).—DRESSER, Ibis, 1865, 475 (near San Antonio, Texas).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 60, chiefly.—SALVIN, Ibis, 1889, 360 (Cozumel Island, Yucatan; crit.).

Pyrocephalus nanus (not of Gould) WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 75 (Quihi, Texas).

Pyrocephalus mexicanus SCLATER, Proc. Zool. Soc. Lond., 1859, 45 (Mexico; coll. P. L. Sclater), 56 (near Peten, Guatemala; Belize, British Honduras), 366 (Jalapa, Vera Cruz); 1864, 176 (City of Mexico); Ibis, 1859, 442 (Mexico; Guatemala; Honduras); Cat. Am. Birds, 1862, 227 (Mexico); Cat. Birds Brit. Mus., xiv, 1888, 213 (Pine Ridge of Poctum and Santana, Peten district, Guatemala; Belize, British Honduras; Cozumel I., Silam, and Progreso, Yucatan; etc.).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Peten, Guatemala; Belize, British Honduras; habits).—SALVIN and SCLATER, Ibis, 1860, 399 (Guatemala).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 201 (Merida, Yucatan).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—COOPER, Orn. Cal., i, 1870, 333 (Fort Mojave; Fort Yuma, etc.); Auk, iv, 1887, 92 (West Grove, Ventura Co., California, 2 specs., Oct. 21 and Nov. 7).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 44, fig. 5; iii, 1874, 520 (Tucson, Arizona; descr. nest and eggs).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Yucatan).

P[yrocephalus] mexicanus CABANIS and HEINE, Mus. Hein., ii, 1859, 68 (Jalapa).

[*Pyrocephalus*] *mexicanus* GRAY, Hand-list, i, 1869, 360, no. 5481.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51.—SHARPE, Hand-list, iii, 1901, 134.

[*Pyrocephalus*] *rubineus* var. *mexicanus* COUES, Key N. Am. Birds, 1872, 177.

Pyrocephalus rubineus . . . var. *mexicanus* COUES, Check List, 1873, no. 263.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 128 (Pueblo Viejo, Arizona).

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Pyrocephalus rubineus, var. *mexicanus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 387.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan; Plains of Colima; habits; descr. nest and eggs).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Santa Efigenia and Tehuantepec City, Oaxaca).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 141 (Fort Brown, Texas; habits; descr. nest and eggs).

Pyrocephalus rubineus mexicanus COUES and SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 1, 1878, 34 (Brownsville, Texas); v, no. 3, 1879, 409 (Lomita Ranch, Texas; measurements, etc.).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 330; Proc. U. S. Nat. Mus., x, 1888, 589 (Segovia R., s. Honduras).—BELDING, Proc. U. S. Nat. Mus., v, 1882, 542 (La Paz, Lower California).—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 207 (Cienega Station, Tucson, and Santa Rita Mts., Arizona; crit; habits; descr. nest, eggs, and young); Bull. Mus. Comp. Zool., xli, 1902, 123 (La Paz, San José del Cabo, and Santiago, s. Lower California, Oct. to Feb.).—COUES, Check List, 2d ed., 1882, no. 394.—FERARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 154 (San Martin Texmelucan, Puebla; Tlaxcala; Jalapa, Vera Cruz).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 471.—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 668 (near Corpus Christi, Texas).—CHAPMAN, Bull. Am. Mus. N. H., iii, no. 2, 1891, 323 (Nueces Valley, 25 m. w. of Corpus Christi; eastern limit).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 339 (crit.; measurements).—GRINNELL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 31 (Los Angeles Co., California, rare in winter).—LANTZ, Trans. Kansas Ac. Sci., for 1896–7 (1899), 222 (Florido and Altata, Sinaloa).—WILLIAMS (R. W., jr.), Auk, xviii, 1901, 273 (Tallahassee, Florida, 1 spec., Mar. 25, 1901); xxi, 1904, 457 (same occurrence).—CARPENTER, Condor, iv, 1902, 94 (Escondido, San Diego Co., California, 1 spec., Apr. 6, 1902).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 28 (Huachuca Mts., Arizona; crit.).

P[yrocephalus] rubineus mexicanus COUES, Key N. Am. Birds, 2d ed., 1884, 444; 5th ed., i, 1903, 533.—RIDGWAY, Man. N. Am. Birds, 1887, 345.

PYROCEPHALUS NANUS (Gould).

GALAPAGOS VERMILION FLYCATCHER.

Similar to *P. rubinus mexicanus*, but much smaller, with larger feet; adult male with color of back, etc., much darker (sooty blackish), immature male with under parts of body wholly pale red, adult female with under parts (except throat) yellow or salmon color, young with under parts of body yellow or buff-yellow.

Adult male.—Entire pileum bright poppy red, scarlet-vermilion, or scarlet; malar region and entire under parts lighter red (varying from between geranium red and scarlet-vermilion to orange-chrome), the feathers of throat white beneath surface; loral and auricular regions, sides of neck, hindneck, back, scapulars, rump, upper tail-coverts, tail, and wings plain dark sooty brown or sooty blackish, the remiges and rectrices sometimes margined terminally with pale grayish or grayish white; bill brownish black, the mandible more brownish basally; legs and feet brownish black; iris brown; length (skins), 104–126 (123); wing, 61–67 (63.8); tail, 48.5–54.5 (51); exposed culmen, 12.5–14 (13.2); tarsus, 17–19 (18.1); middle toe, 9.5–11 (10.8).[a]

[a] Nineteen specimens.

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Adult female.—Pileum sooty brown streaked with darker, the forehead more or less extensively intermixed with pale buffy or dull whitish, the crown and occiput sometimes narrowly streaked with the same; hindneck, back, scapulars, lesser wing-coverts, rump, and upper tail-coverts plain sooty brown (between olive and sepia); wings (except lesser coverts) dusky with light grayish brown edgings, the middle and greater wing-coverts margined terminally with the same; lores dull whitish or pale buffy, becoming dusky grayish near eye; auricular region light sooty brown with narrow shaft-streaks of paler; malar region, chin, and throat white, sometimes tinged with yellow or buffy; rest of under parts varying from naples yellow to light orange-buff, the chest sometimes with a few narrow streaks of dusky; bill, iris, and feet as in adult male; length (skins), 113–130 (121); wing, 61–65.5 (62.6); tail, 48.5–55.5 (51.8); exposed culmen, 12.5–14 (12.8); tarsus, 16.5–19 (17.9); middle toe, 9.5–11 (10.1).[a]

Immature male (second year?).—Similar to the adult female, but under parts (except chin and throat) pale vermilion red, salmon-pink, or flesh color.[b]

Young.—Above dark sooty, the feathers margined terminally with buffy, the feathers of rump broadly tipped with cinnamon-buff or cinnamon; middle and greater wing-coverts margined terminally with buff or cinnamon-buff, secondaries margined terminally with whitish, the rectrices more or less tipped or terminally margined with pale buff or whitish; malar region, chin and throat dull white; rest of under parts light yellow (straw or naples) the chest usually streaked with dusky.

Galapagos Archipelago (Albemarle, Narborough, Charles, James, Jarvis, Abingdon, Bindloe, Duncan, and Barrington islands).

Pyrocephalus nanus GOULD, Zool. Voy. 'Beagle,' iii, 1841, 45, pl. 7 (Galapagos Archipelago; type now in coll. Brit. Mus.).—SCLATER and SALVIN, Proc. Zool.

[a] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Charles Island	64.3	50.4	13.5	17.7	10.3
Two adult males from Abingdon Island	66.5	50.5	13.8	18.8	10
Four adult males from Albemarle Island	62.9	49.9	12.8	18.4	10.6
One adult male from Duncan Island	61	54.5	13	18	10
Three adult males from James Island	63.7	52.3	12.3	18.2	10.3
Three adult males from Indefatigable Island	63.5	51.8	13.7	18.2	10
FEMALES.					
Five adult females from Abingdon Island	62	52	12.9	18	10.1
Two adult females from Albemarle Island	63.3	51	13	18.3	10.5
One adult female from James Island	64	54.5	12.5	18.5	10
One adult female from Indefatigable Island	61	49.5	13	18.5	9.5

[b] The pileum intermixed with scarlet in older individuals.

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Soc. Lond., 1870, 323 (Indefatigable I.).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 125 (James and Indefatigable islands).—SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 492 (Indefatigable I.).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1889, 112 (Indefatigable, Charles, Abingdon, and James islands).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 214, part (Indefatigable, Charles, and Bindloe islands).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 172 (James, Indefatigable, Albemarle, Duncan, Charles, Abingdon, and Bindloe islands; crit.); ix, 1902, 403 (Barrington, Albemarle, Duncan, Indefatigable, and Abingdon islands; habits), 417 (nearly all islands of group except Chatham).

[*Pyrocephalus*] *nanus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.—SHARPE Hand-list, iii, 1901, 134.

P[*yrocephalus*] *nanus* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 202.

Pyrocephalus nanus nanus SNODGRASS and HELLER, Proc. Wash. Acad. Sci., v, Jan. 28, 1904, 270 (Charles, Indefatigable, Duncan, Jarvis, James, Albemarle, and Narborough islands; crit.; measurements).

Pyrocephalus carolensis RIDGWAY, Proc. U. S. Nat. Mus., xvii, no. 1007, Nov. 15, 1894, 365 (Charles I., Galapagos Archipelago; coll. U. S. Nat. Mus.).

Pyrocephalus intercedens RIDGWAY, Proc. U. S. Nat. Mus., xvii, no. 1007, Nov. 15, 1894, 366 (Indefatigable I., Galapagos Archipelago; coll. U. S. Nat. Mus.).

Pyrocephalus abingdoni RIDGWAY, Proc. U. S. Nat. Mus., xvii, no. 1007, Nov. 15, 1894, 367 (Abingdon I., Galapagos Archipelago; coll. U. S. Nat. Mus.).

Pyrocephalus nanus abingdoni SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, Jan. 28, 1904, 271 (Abingdon and Bindloe islands; crit.; measurements).

PYROCEPHALUS DUBIUS Gould.

PYGMY VERMILION FLYCATCHER.

Similar to *P. nanus*, but decidedly smaller, with relatively smaller feet; adult male with sooty brown of back, etc., rather lighter, and red of under parts decidedly paler (especially on throat and posterior parts); adult female with under parts entirely buff, and young with under parts pale buff (not yellow).

Adult male.—Entire pileum bright scarlet, or scarlet-vermilion; malar region and under parts varying from light geranium red to flesh color, the color usually decidedly paler on throat, abdomen, and under tail-coverts, sometimes more intense on chest, the chin usually whitish; loral and auricular regions, sides of neck, and entire upper parts (except pileum) deep sooty brown (between sepia and seal brown); bill brownish black, the mandible more brownish basally; iris brown; legs and feet brownish black; length (skins), 109–115 (112); wing, 54–58 (56.3); tail, 45.5–49 (47.7); exposed culmen, 11.5–13 (12.4); tarsus, 15.5–17 (16.2); middle toe, 9–10 (9.5).[a]

Adult female.—Pileum grayish brown, streaked with dusky and sometimes with buff also, the forehead and a superciliary stripe light buff; a dusky spot on lores at anterior angle of eye; auricular region, sides of neck, hindneck, back, scapulars, wing-coverts, inner secondaries, rump, and upper tail-coverts sooty grayish brown, the middle

[a] Five specimens.

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and greater wing-coverts and secondaries narrowly and indistinctly margined with paler; primaries and rectrices more dusky, with narrow and indistinct paler edgings; malar region, chin, and throat pale brownish buff or dull buffy whitish; rest of under parts clear buff, entirely unstreaked; bill, iris, and feet as in adult male; length (skins), 108–113 (110); wing, 55–57 (55.5); tail, 45–46 (45.8); exposed culmen, 11.5–12 (11.6); tarsus, 16–16.5 (16.1); middle toe, 9–9.5 (9.3).[a]

Young.—Pileum dusky, streaked with brownish buff or clay color; rest of upper parts dark sooty brown or dusky, the feathers margined terminally with brownish buff, those of the rump broadly tipped with brownish buff or buffy brown; middle and greater wing-coverts rather broadly tipped with cinnamon-buff, forming two distinct bands; secondaries broadly margined terminally with pale buff, the rectrices tipped with cinnamon-buff; under parts pale yellowish buff; paler on throat, the chest with a few narrow streaks of dusky.

Galapagos Archipelago (Chatham Island only).

Pyrocephalus dubius GOULD, Zool. Voy. "Beagle," iii, 1841, 46 (Galapagos Archipelago; type now in coll. Brit. Mus.).—RIDGWAY, Proc. U. S. Nat. Mus., xvii, 1894, 368 (Chatham I.; descriptions).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 173 (Chatham I.); ix, 1902, 403 (Chatham I.; descr. young, nest, and eggs).—ROTHSCHILD, Bull. Brit. Orn. Club, pt. xii, 1902, 47 (Chatham I.; descr. nest and eggs).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 272 (Chatham I.; crit.; measurements).

[*Pyrocephalus*] *dubius* SHARPE, Hand-list, iii, 1901, 134.—ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 417 (Chatham I.).

P[*yrocephalus*] *dubius* ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 202 (Chatham I.).

Pyrocephalus nanus (not of Gould) SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 492, part.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 214, part.

[*Pyrocephalus*] *nanus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.

Pyrocephalus minimus RIDGWAY, Proc. U. S. Nat. Mus., xii, no. 767, Feb. 5, 1890, 113, in text (Chatham I., Galapagos Archipelago; coll. U. S. Nat. Mus.).

Genus NESOTRICCUS Townsend.

Nesotriccus[b] TOWNSEND (C. H.), Bull. Mus. Comp. Zool., xxvii, no. 3, July, 1895, 124. (Type, *N. ridgwayi* Townsend.)

Small Tyrannidæ (wing about 60 mm.) related to *Eribates* but differing in relatively narrower, more depressed, and more sharply ridged bill, shorter tail and wing (the former very slightly longer than distance from bend of wing to end of distal secondaries, the latter only three times as long as tarsus) and longer tenth (outermost) primary (equal to second instead of shorter than first).

Bill about as long as head, much depressed basally, narrowly wedge-shaped in vertical profile, its width at posterior end of nostrils

[a] Four specimens.

[b] "νῆσος = island; *Triccus* = genus of tyrant flycatchers."

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decidedly less than half the length of exposed culmen, and nearly twice its depth at same point, its lateral outlines faintly concave near middle portion, faintly convex terminally; exposed culmen equal to middle toe with claw, very distinctly ridged, nearly straight basally but gently decurved for near terminal half, the tip of maxilla minutely uncinate; gonys decidedly longer than mandibular rami, slightly convex; maxillary tomium faintly concave anteriorly, minutely notched subterminally. Nostril exposed, longitudinally oval or elliptical, margined above by distinct membrane. Rictal bristles moderately large, strong; feathers of chin and malar and frontal antiæ with distinct bristly points. Wing moderate, much rounded, the longest primaries exceeding distal secondaries by less than length of middle toe without claw; sixth, seventh, and eighth primaries longest and equal, ninth intermediate between fifth and sixth, tenth (outermost) equal to second. Tail about seven-eighths as long as wing (slightly longer than distance from bend of wing to end of distal secondaries), slightly rounded, the rectrices rather narrow, with broadly rounded tip. Tarsus long and slender, twice as long as middle toe without claw, one-third as long as wing, its scutellation typically exaspidean but with a separate series of longitudinal scutella along upper posterior margin of outer side of tarsus, the acrotarsial divisions very distinct; basal phalanx of middle toe united for entire length to outer toe, for more than half to inner toe; lateral toes, equal, reaching, without claws, to slightly beyond middle of subterminal phalanx of middle toe; hallux shorter than lateral toes but distinctly stouter, its claw nearly as long as the digit; all the claws rather long and slender, moderately curved, sharp, moderately compressed.

Coloration.—Above plain dark olive or sooty brown, the wings dusky with paler edgings and two broad pale grayish fulvous bands; beneath dull light olive-yellowish, paler on throat, the chest and sides shaded with olive.

Nidification.—(Unknown.)

Range.—Cocos Island, off Gulf of Panama. (Monotypic.)

NESOTRICCUS RIDGWAYI Townsend.

COCOS ISLAND FLYCATCHER.

Adult male.—Above plain sooty olive, the lower rump and upper tail-coverts decidedly paler (nearly hair brown or broccoli brown); wings dusky with paler edgings, the middle and greater coverts rather broadly tipped with pale buffy brown or pale dull brownish buffy, forming two distinct bands; inner secondaries ("tertials") broadly edged and terminally margined with pale buffy brown or brownish buff; tail dusky, becoming paler (clear hair brown) on lateral rectrices, all the rectrices edged with pale grayish brown or olive; upper portion of lores and a fairly distinct orbital ring pale grayish buffy or dull

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brownish white; lower portion of lores dusky; auricular region and sides of neck light olive (the former with very narrow and indistinct paler shaft-streaks), fading gradually to dull buffy whitish on chin and throat; chest light buffy olive, paler and more yellowish buffy medially, passing posteriorly into light buffy yellow (pale naples yellow or straw yellow) on rest of under parts, the sides and flanks faintly tinged with olive; maxilla horn brown basally, blackish terminally, mandible horn brown, paler basally; iris dark brown; legs and feet black; length (skins), 120–136 (128); wing, 61–63 (62); tail, 53–55.5 (54.3); exposed culmen, 15.5; tarsus, 20.5–21.5 (21); middle toe, 10.5–11 (10.7).[a] (Adult female and young unknown.)

Cocos Island, off Pacific coast of Costa Rica (lat. 5° 33′ N., long. 87° 2′ W.).

Nesotriccus ridgwayi TOWNSEND (C. H.), Bull. Mus. Comp. Zool., xxvii, no. 3, July, 1895, 124, plate (Cocos I.;[b] coll. U. S. Nat. Mus.).—SNODGRASS and HELLER, Proc. Wash. Acad. Sci., iv, 1902, 518 (description).

[*Nesotriccus*] *ridgwayi* SHARPE, Hand-list, iii, 1901, 147.

Genus CNIPODECTES Sclater and Salvin.

Cnipodectes[c] SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873 (pub. Aug. 1), 281. (Type, *Cyclorhynchus subbrunneus* Sclater.)

Medium sized Tyrannidæ (wing about 70–90 mm.) with plain brown coloration (paler and grayer below with abdomen pale yellowish or yellowish white), outer toe nearly as long as middle toe, whole of basal and a small part of second phalanx of the latter united to outer toe, tail nearly as long as wing, even or slightly emarginate, tarsus more than one-fifth as long as wing, and width of bill at frontal antiæ equal to about half the length of exposed culmen.

Bill shorter than, but much more than half as long as, head, depressed, broadly wedge-shaped in vertical profile, its width at frontal antiæ equal to about half the length of exposed culmen and nearly twice its depth at same point; exposed culmen shorter than middle toe with claw, distinctly ridged, nearly straight for most of its length, rather abruptly decurved terminally, the tip of maxilla moderately uncinate; gonys decidedly longer than mandibular rami, slightly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, rather small, roundish or broadly oval, nonoperculate, in anterior end of nasal fossæ. Rictal bristles well developed, the feathers of chin and frontal antiæ also with distinct bristly tips. Wing rather long, with longest primaries exceeding secondaries by length of exposed culmen or more; eighth primary longest, seventh

[a] Two specimens.

[b] Cocos Island is in the Pacific Ocean southwest of Costa Rica, in lat. 5° 30′ N., long. 87° W.

[c] "*Κνίψ, culex*, et *δήκτης, mordicator.*"

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and sixth, successively, slightly shorter, ninth equal to or longer than fifth, tenth (outermost) intermediate between third and fourth. Tail nearly as long as wing, even or slightly emarginate, the rectrices widening terminally. Tarsus more than one-fifth as long as wing (about one and a half times as long as middle toe without claw), its scutellation typically exaspidean, the acrotarsial divisions indistinct on outer side; basal phalanx of middle toe entirely united to outer toe (the adhesion involving a slight portion of second phalanx also), more than half united to inner toe; outer toe, without claw, nearly as long as middle toe(reaching to terminal joint of the latter), the inner toe conspicuously shorter, reaching (without claw) barely to middle of subterminal phalanx of middle toe; hallux slightly longer than inner toe, considerably but not conspicuously stouter, its claw shorter than the digit; all the claws moderately curved, sharp, much compressed.

Coloration.—Above plain brown, becoming russet on tail; beneath paler brown, becoming more grayish on breast and passing into pale yellowish on abdomen.

Nidification.—(Unknown.)

Range.—Panama to Peru. (Two species.)

KEY TO THE SPECIES OF CNIPODECTES.

a. Larger (wing 89–94, tail 80.5–84, exposed culmen 16.5–17, tarsus 18–18.5.) (Panama to western Ecuador.).....**Cnipodectes subbrunneus** (p. 484)

aa. Smaller (wing 71.5–74, tail 64–68, exposed culmen 15–16, tarsus 17.) (Panama to Peru.).....**Cnipodectes minor** (p. 485)

CNIPODECTES SUBBRUNNEUS (Sclater).

BROWN FLYCATCHER.

Adults (sexes alike).—Above plain olive-brown, passing into russet or mars brown on upper tail-coverts and tail; wings dusky, the secondaries broadly edged with buff, the middle coverts tipped, the greater coverts edged, with light brown or buffy brown, the primaries narrowly and rather indistinctly edged with grayish and passing into brownish gray terminally; sides of head, neck, and chest olive-brown, slightly lighter than that of upper parts, passing into pale grayish brown on chin and throat; light olive-brown of chest passing on sides and upper breast into pale grayish brown, this into pale buffy yellow or yellowish white on abdomen; under tail-covert slight buffy brown or cinnamon-brown; axillars and under wing-coverts pale buffy brown or dull buffy cinnamon; inner webs of secondaries broadly edged with cinnamon-buff, the primaries with edgings more whitish; maxilla dusky brown, mandible wholly whitish (in dried skins); iris dark brown; legs and feet light brownish (in dried skins).

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Adult male.—Length (skins), 166–176 (172); wing, 89–94 (91.8); tail, 80.5–84 (81.8)); exposed culmen, 16.5–17 (16.7); tarsus, 18–18.5 (18.3); middle toe, 11.5–12 (11.8).[a]

Adult female.—Length (skin), 167; wing, 91.5; tail, 82; exposed culmen, 16.5; tarsus, 18; middle toe, 11.5.[b]

Panama (Lion Hill; Panama City; Cascajal-Coclé), Colombia (Remedios, Antioquia), and western Ecuador (Esmeraldas; Babahoyo; Balzar Mountains; Foreste del Rio Peripa).

Cyclorhynchus subbrunneus SCLATER, Proc. Zool. Soc. Lond., 1860, 282 (Babahoyo, w. Ecuador; coll. P. L. Sclater), 295 (Esmeraldas, w. Ecuador).– LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473, part (Panama).

Myiochanes subbrunneus SCLATER, Cat. Am. Birds, 1862, 232 (Babahoyo and Esmeraldas, w. Ecuador).

[*Cnipodectes*] *subbrunneus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.

Cnipodectes subbrunneus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 514 (Remedios, Antioquia, Colombia).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 118 (Babahoyo and Esmeraldas, w. Ecuador), 123 (Antioquia, Colombia; Panama).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 197, pl. 16 (Babahoyo, Esmeraldas, and Balzar Mts., w. Ecuador; Remedios, Colombia).—SALVADORI and FESTA, Boll. Mus. Zool. etc., Torino, xv, no. 362, 1899, 10 (Foreste del Rio Peripa, w. Ecuador).

[*Cnipodectes*] *subbrunneus* SHARPE, Hand-list, iii, 1901, 131, part.

CNIPODECTES MINOR Sclater.

LESSER BROWN FLYCATCHER.

Similar in coloration to *C. subbrunneus* but much smaller.

Adult female.—Length (skins), 146–148 (147); wing, 71.5–74 (72.7); tail, 64–68 (66); exposed culmen, 15–16 (15.5); tarsus, 17; middle toe, 11.[c]

Panama (Panama City); western Ecuador (Santa Rita); eastern Peru (Chamicuros).

Cyclorhynchus subbrunneus (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473, part (Panama).

Cnipodectes subbrunneus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873, 281 (Chamicuros, e. Peru).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 197, part (in synonymy).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 55, part.

[*Cnipodectes*] *subbrunneus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.

[*Cnipodectes*] *sub-brunneus* SHARPE, Hand-list, iii, 1901, 131, part.

Cnipodectes minor SCLATER, Proc. Zool. Soc. Lond., 1883, 654 (Chamicuros, e. Peru; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 197 (Chamicuros, e. Peru; Santa Rita, w. Ecuador; Panama).—TACZANOWSKI, Orn. du Pérou, ii, 1884, 294.—REICHENOW and SCHALOW, Journ. für Orn., 1886, 85 (reprint of orig. descr.).

[a] Three specimens.

[b] One specimen.

[c] Two specimens from Panama City.

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Genus MYIOBIUS Darwin.

Tyrannula (not *Tyrannulus* Vieillot, 1816) SWAINSON, Zool. Journ., iii, 1827, 358. (Type, *Muscicapa barbata* Gmelin.)

Platyrhynchus (not *Platyrinchus* Desmarest, 1805) SPIX, Av. Bras., ii, 1825, 9. (Type, *P. xanthopygus* Spix.)

Myiobius DARWIN, Zool. Voy. "Beagle," iii, Birds, no. 9, July, 1839, 46 (ex Gray, manuscript). (To replace *Tyrannula* Swainson, preoccupied.)

Small Tyrannidæ (wing about 60–70 mm.) with excessively developed rictal bristles (extending beyond tip of bill), second phalanx of middle toe entirely free from outer toe, tail about eight-ninths as long as wing, outermost (tenth) primary much shorter than secondaries, crown with a yellow patch, rump light yellow, and tail black or dusky.

Bill shorter than head, depressed, its width at frontal antiæ equal to more than half the length of exposed culmen and more than twice its depth at same point, broadly wedge-shaped in vertical profile, its lateral outlines first convex then concave, the tip rather abruptly constricted; exposed culmen slightly longer than middle toe without claw, distinctly ridged, nearly straight for most of its length, rather abruptly decurved terminally, the tip of maxilla distinctly but rather finely uncinate; gonys much longer than mandibular rami, very faintly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, longitudinally broadly oval, in anterior end of nasal fossæ, with narrow superior membrane. Rictal bristles excessively developed, very strong, reaching beyond tip of bill, the feathers of chin with slender, those of frontal antiæ with very strong, arched, bristly points, the latter reaching nearly to tip of bill. Wing moderate, much rounded, with longest primaries exceeding secondaries by less than length of exposed culmen; seventh primary longest, eighth equal to or slightly shorter than sixth, ninth shorter than fifth, the tenth (outermost) much shorter than secondaries. Tail nearly (about eight-ninths) as long as wing, even or very slightly double-rounded, the rectrices rather broad, with subacuminate tip. Tarsus about two-sevenths as long as wing, rather stout, its scutellation ultra-exaspidean, but acrotarsial divisions more or less indistinct; middle toe, without claw, a little more than half as long as tarsus, its second phalanx entirely free from (but basal phalanx wholly united to) outer toe, its basal phalanx about half united to inner toe; outer toe, without claw, reaching almost to terminal joint of middle toe, the inner toe conspicuously shorter, reaching barely to middle of subterminal phalanx of middle toe; hallux about as long as inner toe, or very slightly longer, much stouter, its claw shorter than the digit; all the claws moderately curved, rather stout, sharp, much compressed.

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Coloration.—Above plain, rather dark olive, the upper tail-coverts and tail black or blackish brown; a crown-patch and broad band across rump light yellow; under parts light olive or fulvous, passing into pale yellow on abdomen and pale grayish or dull whitish on throat.

Range.—Southern Mexico to Peru, Bolivia, eastern Brazil, and Guiana. (About six species, including subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF MYIOBIUS.

a. Rump sulphur or primrose yellow; under parts not uniform buff-yellow or yellowish buff; back dark olive or greenish olive.

b. Chest and sides pale buffy grayish brown or pale buffy olive. (*Myiobius barbatus.*)

c. Tail more fuscous (dusky). (Guiana; Cayenne; Amazon Valley?)

Myiobius barbatus barbatus (extralimital).[a]

cc. Tail deep black. (Panama and Costa Rica.)

Myiobius barbatus atricaudus (p. 488).

bb. Chest and sides ochraceous-brown or cinnamon-brownish. (*Myiobius xanthopygus.*)

c. Back greenish olive; brown of chest and sides paler; yellow of abdomen more extended.

d. Under tail-coverts pale buffy brown or cinnamon, without darker bars; olive of back and brownish of chest and sides paler. (Eastern Brazil.)

Myiobius xanthopygus xanthopygus (extralimital).[b]

dd. Under tail-coverts usually pale yellow, with narrow bars, or other markings, of dusky; olive of back and brownish of chest and sides darker. (Southern Mexico to Panama.)....**Myiobius xanthopygus sulphureipygius** (p. 490)

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[a] [*Muscicapa*] *barbata* Gmelin, Syst. Nat., i, pt. ii, 1788, 933 (based on *Barbichon du Cayenne, mas*, Daubenton, Pl. Enl., pl. 830, fig. 1).—*Tyrannula barbata* Swainson, Zool. Journ., iii, 1827, 359.—[*Myiobius*] *barbata* Bonaparte, Consp. Av., i, 1850, 187 (Cayenne).—*M*[*yiobius*] *barbatus* (not *Myiobius barbatus* Burmeister, 1856) Cabanis and Heine, Mus. Hein., ii, 1859, 67, footnote (Guiana).—*Myiobius barbatus* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 199, part (Bartica Grove, Camacusa, Roraima, and Atapurow R., British Guiana; Oyapoc, Cayenne; Amazons); Salvin, Ibis, 1885, 295 (Brit. Guiana).—(?) *Myiobius sulphureipygius* (not *Tyrannula sulphureipygia* Sclater) Menegaux, Bull. Mus. Hist. Nat. Paris, 1904, 118 (St. Georges d'Oyapoc, Guiana).

I have not been able to examine a specimen of this form, and therefore can not be sure that I have given the best statement of the characters wherein it differs from the Panama form. Doctor Sclater considers them as not separable; but as he also unites with them *M. xanthopygius*, which is certainly distinct, I follow Count von Berlepsch and others in separating subspecifically *M. atricaudus* Lawrence.

[b] *Platyrhynchus xanthopygus* Spix, Av. Species Novæ ("Av. Bras."), ii, 1825, 9, pl. 9, fig. 1 (Brazil; coll. Munich Mus.).—*M*[*yiobius*] *xanthopygus* Cabanis and Heine, Mus. Hein., ii, 1859, 67 (Bahia); Berlepsch, Auk, v, 1888, 457, 458, in text (crit.).—*Myiobius xanthopygius* Pelzeln, Orn. Bras., ii. Abth., 1869, 113.—[*Myiobius*] *xanthopygius* Pelzeln, Orn. Bras., iv. Abth., 1870, 426.—*Muscipeta barbata* (not *Muscicapa barbata* Gmelin) Swainson, Zool. Illustr., ii, 1822, pl. 116; Maximilian, Beitr. Naturg. Bras., iii, 1831, 934.—*T*[*yrannula*] *barbata* Hartlaub, Verz. Mus. Brem., 1844, 50.—*Myiobius barbatus* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 501; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 199, part (Bahia).

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cc. Back brownish olive; brown of chest and sides darker; yellow of abdomen more restricted. (Colombia to Peru and Bolivia.)

Myiobius xanthopygus villosus (extralimital)[a]

aa. Rump and entire under parts yellowish buff; back light buffy olive. (Southeastern Brazil.).....**Myiobius ridgwayi** (extralimital)[b]

MYIOBIUS BARBATUS ATRICAUDUS (Lawrence).

BLACK-TAILED MYIOBIUS.

Adults (*sexes alike*).—Above plain greenish olive, the occiput with a partially concealed patch of bright sulphur or canary yellow; wings dull slaty brownish black or dusky, with olive edgings; rump primrose or pale sulphur yellow; upper tail-coverts and tail black; sides of head and neck similar in color to upper parts but slightly paler; malar region, chin, and throat pale buffy yellowish, passing into light buffy olive on chest, the rest of under parts primrose or pale straw yellow, the under tail-coverts mixed with pale olive or grayish olive or wholly of that color; maxilla brownish black, mandible whitish (pale flesh color in life), with tip dusky; iris dark brown; legs and feet dusky horn color in dried skins, plumbeous in life.

Immature.—Similar to adults, but without any yellow on occiput.

Adult male.—Length (skins), 108–127 (118); wing, 56–63 (58.3); tail, 55–59.5 (56.9); exposed culmen, 10–11 (10.7); tarsus, 16–18 (16.7); middle toe, 9–9.5 (9.2).[c]

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[a] *Myiobius villosus* Sclater, Proc. Zool. Soc. Lond., 1860, 93, 465 (Rio Napo and Nanegal, e. Ecuador; coll. P. L. Sclater); Cat. Am. Birds, 1862, 226; Cat. Birds Brit.Mus., xiv, 1888, 201 (Bogota and Frontino, Colombia; Rio Napo and Nanegal, Ecuador; Tilotilo, Bolivia).—*Myiobius xanthopygius* (not *Platyrhynchus xanthopygus* Spix) Taczanowski, Proc. Zool. Soc. Lond., 1874, 537 (Amable Maria, centr. Peru).

This form agrees with *M. sulphureipygius*, as compared with *M. xanthopygus*, in having the tail dull black, the brighter yellow crown-patch, and barred under tail-coverts; but the olive of the back, etc., is darker and much browner, the brown of chest and sides not only darker, but much more extended, only a small portion of the abdomen being yellowish. The ground color of the under tail-coverts is light cinnamon-brown, not pale yellow.

[b] (?) *Myiobius barbatus* (not *Muscicapa barbata* Gmelin) Koenigswald, Journ. für Orn., 1896, 359 (S. Paulo, s. Brazil); Ihering, Aves de S. Paulo, 1899, 201; Rev. Mus. Paul., iv, 1900, 49 (descr. nest and eggs), 155 (Cantagallo and Novo Fribourgo, S. Paulo).—*Myiobius ridgwayi* Berlepsch, Auk, v, Oct., 1888, 457 (Petropolis, Province of Rio de Janeiro, s. e. Brazil; coll. Count von Berlepsch).

[c] Five specimens.

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Adult female.—Length (skins), 115–127 (118); wing 55–58 (56.2); tail, 55–59 (56.6); exposed culmen, 10–11 (10.6); tarsus, 16–17 (16.6); middle toe, 8–9.5 (8.9).[a]

Western Costa Rica (La Palma de Nicoya; Pozo Azul de Pirris; Naranjo), and Panama (Panama City; Loma del Leon; Natá-Coclé; Divala; Calovevora) and southward through Colombia (Remedios, Antioquia) to Venezuela (Caicara), Ecuador (Babahoyo; Esmeraldas; Sarayacu), and Peru (Huallaga River; Ucayali; Xeberos; Chyavetas).[b]

Myiobius barbatus (not *Muscicapa barbata* Gmelin) SCLATER, Proc. Zool. Soc. Lond., 1860, 282 (Babahoyo, Ecuador), 295 (Ecuador); Cat. Am. Birds, 1862, 225 (Esmeraldas and Babahoyo, Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 199, part (Calovevora and Panama City, Panama; Esmeraldas, Babahoyo, and Sarayacu, Ecuador; Remedios, Province Antioquia, Colombia).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 328 (Lion Hill, Panama R. R.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 751 (Huallaga R., e. Peru); 1873, 281 (Xeberos and Chyavetas, e. Peru); 1879, 514 (Antioquia, Colombia; crit.).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 332 (Palmal, w. Ecuador); 1882, 21 (Yurimaguas, n. e. Peru); Orn. du Pérou, ii, 1884, 298.—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 118 (Babahoyo and Esmeraldas, w. Ecuador).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 56, chiefly.

[*Myiobius*] *barbatus* SCLATER, Proc. Zool. Soc. Lond., 1860, 465, part (Colombia; Ecuador).—GRAY, Hand-list, i, 1869, 359, no. 5453, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.

Myiobius atricaudus LAWRENCE, Ibis, Apr., 1863, 183 (Lion Hill, Panama R. R.; coll. G. N. Lawrence); Ann. Lyc. N. Y., viii, 1863, 8, 486 (Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama; crit.).—SALVIN, Proc. Zool. Soc. Lond., 1870, 198 (Calovevora, Panama; crit.).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 396 (La Palma, w. Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 396, footnote (crit.).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 22 (Loma del Leon, Panama).

[*Myiobius*] *atricauda* GRAY, Hand-list, i, 1869, 359, no. 5455.—SHARPE, Hand-list, iii, 1901, 131.

Myiobius atricauda THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 219 (Sabana de Panama).

(?) *Myiobius barbatus atricaudus* ? BERLEPSCH and HARTERT, Novit. Zool., ix, Apr., 1902, 49 (Caicara, Venezuela; crit.).

[a] Eight specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Panama	58.9	56.9	10.9	16.8	9.3
One adult male from Costa Rica	56	57	10	16.5	9
FEMALES.					
Four adult females from Panama	56.9	56.6	10.8	16.6	9.1
Four adult females from Costa Rica	55.5	56.6	10.5	16.6	8.8

[b] I have seen specimens only from Costa Rica and Panama, and therefore give the South American localities at second hand.

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(?) *Myiobius xanthopygius* (not *Platyrhynchus xanthopygus* Spix) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 189 (Ucayali, e. Peru).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 537 (centr. Peru).

MYIOBIUS XANTHOPYGUS SULPHUREIPYGIUS (Sclater).

SULPHUR-RUMPED MYIOBIUS.

Adult male.—Above deep greenish olive, the occiput with a partially concealed patch of bright canary or lemon yellow (rarely more orange-yellow); wings dark sooty brown or dusky, the remiges with brownish edgings; rump primrose or pale canary yellow; upper tail-coverts and tail black or brownish black; chin and throat pale grayish yellow; chest and sides light tawny-brown or yellowish cinnamon; median portion of breast, abdomen, flanks, and anal region primrose yellow or light canary yellow, the flanks tinged with the color of sides; under tail-coverts pale yellowish, sometimes intermixed with pale cinnamon-brownish, usually with darker U or V-shaped lines of brown or dusky; maxilla brownish black, mandible whitish (in dried skins) tipped with dusky; iris brown; legs and feet horn brownish (in dried skins); length (skins), 112–131 (121); wing, 56–69 (65.3); tail, 49–58.5 (53.7); exposed culmen, 10.5–12.5 (11.6); tarsus, 17–19 (18.2); middle toe, 9.5–10.5 (9.9).[a]

Adult female.—Similar to the adult male, but usually[b] without any yellow on occiput; length (skins), 110–126 (118); wing, 58.5–67.5 (62.4); tail, 49–56.5 (51.9); exposed culmen, 10.5–12.5 (11.5); tarsus, 16–18 (16.6); middle toe, 8.5–10 (9.3).[c]

[a] Sixteen specimens.

[b] Twenty-one out of twenty-four specimens sexed as females have no trace of yellow on top of head, and one more has merely a trace.

[c] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from southern Mexico	68	56.8	11.2	18.3	9.9
One adult male from Guatemala	65	53.5	11.5	18.5	9.5
One adult male from Honduras	61.5	51	12.5	.....	.....
Seven adult males from Costa Rica	65.8	53.4	11.8	18.4	9.9
Three adult males from Panama	62	51.2	11.5	17.5	10
FEMALES.					
Two adult females from southern Mexico	63	52.8	10.5	16	9
One adult female from Honduras	63.5	55	11	16.5	9.5
Ten adult females from: s. Honduras (1), Nicaragua (1), and Costa Rica (8)	62.4	51.5	11.8	16.7	9.3
One adult female from Panama	60.5	51.5	10.5	.....	.....

It is not improbable that a satisfactory series of specimens may show the desirability of separating the birds of Panama, Costa Rica, Nicaragua, and southern Honduras from

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Southern Mexico, in States of Vera Cruz (Cordova; Playa Vicente; Orizaba; Buena Vista), Tabasco (Teapa), and Yucatan (Cozumel Island), southward through Guatemala (Choctum; sources of Rio de la Pasion), British Honduras (Cayo), Honduras (Santa Ana; Yaruca; Rio de las Piedras; Segovia River), Nicaragua (Chontales; Los Sábalos), and Costa Rica (Angostura; Tucurriqui; Reventazon; Jiménez; Carrillo; Bonilla; Cariblanco de Sarapiquí; Naranjo; Volcan de Miravalles; Pozo Azul de Pirris) to Panama (Panama City; Calovevora; Calobre; Bogaba; Divala; Sante Fé de Veragua).

Tyrannula sulphureipygia SCLATER, Proc. Zool. Soc. Lond., 1856 (pub. Jan. 26, 1857), 296 (Cordova, Vera Cruz, Mexico; coll. P. L. Sclater).

Myiobius sulphureipygius SCLATER, Proc. Zool. Soc. Lond., 1859, 384 (Playa Vicente, Vera Cruz); Ibis, 1859, 442 (Cordova, Vera Cruz); 1873, 373 (Chontales, Nicaragua); Cat. Am. Birds, 1862, 226 (Cordova, Vera Cruz; Choctum, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 200 (Cordova; Cozumel I., Yucatan; British Honduras; sources Rio de la Pasion, and Choctum, Guatemala; Chontales, Nicaragua; Tucurriqui, Costa Rica; Calovevora, Santa Fé, Bugaba, and Chiriqui, Panama).—CASSIN, Proc. Ac. Nat. Sci. Philad., 1860, 144 (Rio Truando, Colombia).—SALVIN and SCLATER, Ibis, 1860, 399 (Choctum, Guatemala).—LAWRENCE, Am. Lyc. N. Y., viii, 1863, 8 (Panama R. R.); ix, 1868, 114 (Angostura, Costa Rica).—SALVIN, Proc. Zool. Soc., 1867, 148 (Santa Fé de Veragua, Panama); 1870, 198 (Volcan de Chiriqui, Bugaba, and Calobre, Panama); Ibis, 1889, 360 (Cozumel I.; crit.).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (Naranjo, Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 402 (Los Sábalos, Nicaragua).—RIDGWAY, Proc. U. S. Nat. Mus., x, 1888, 589 (Segovia R., s. Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 57.—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—LANTZ, Trans. Kansas Acad. Sci. for 1896–7 (1899), 222 (Cayo, British Honduras).—BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 148 (Yaruca, Honduras).

Myiobius] *sulphureipygius* SCLATER, Proc. Zool. Soc. Lond., 1860, 465 (Mexico; Guatemala).—GRAY, Hand-list, i, 1869, 359, no. 5451.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51.—SHARPE, Hand-list, iii, 1901, 131.

M[*yiobius*] *citrinopygus* CABANIS, Mus. Hein., ii, Sept., 1859, 67, footnote (Mexico; coll. Heine Mus.).

Genus APHANOTRICCUS Ridgway.

Aphanotriccus[a] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 207. (Type, *Myiobius capitalis* Salvin.)

Small Tyrannidæ (wing about 58–62 mm.) related to *Myiobius*, but differing in much weaker rictal bristles, much longer tenth primary,

those of southern Mexico, Guatemala, and northern Honduras, or possibly those of southern Mexico from all the rest. The latter, besides averaging darker in the color of the under parts have the under tail-coverts light cinnamon-brownish, in which respect they agree with *M. xanthopygius* and *M. villosus* of South America, while all those from Panama to southern Honduras have the under tail-coverts pale yellow. The series from Guatemala and Honduras is much too meager, however, to enable me to decide to which of two forms (if recognized) they should be referred.

[a] Ἀφανής, unseen, obscure; τρίκκος, a small bird.

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relatively longer bill and tarsus (exposed culmen nearly as long as middle toe with claw, tarsus one-fourth as long as wing) and very different coloration (absence of yellow on crown or rump, tail concolor with back, and wings with two fulvous bands).

Bill shorter than head, broad and depressed basally, its width at frontal antiæ equal to about half the length of exposed culmen and about twice its depth at same point, broadly wedge-shaped in vertical profile with lateral outlines nearly straight, but slightly convex just beyond middle portion; exposed culmen nearly as long as middle toe with claw, rather broadly ridged, nearly straight for most of its length, rather abruptly decurved terminally, the tip of maxilla distinctly uncinate; gonys much longer than mandibular rami, decidedly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, rather small, nearly circular, in anterior end of nasal fossæ, margined above by narrow membrane. Rictal bristles well developed, reaching rather more than halfway to tip of bill; the feathers of chin and frontal antiæ with distinct though fine bristly points. Wing moderate, rounded, with longest primaries exceeding secondaries by about length of exposed culmen; seventh primary longest, eighth and sixth, successively, slightly shorter, ninth equal to fifth, the tenth (outermost) equal to first. Tail nearly as long as wing, slightly rounded, the rectrices with rounded tip. Tarsus one-fourth as long as wing, its scutellation typically exaspidean, with divisions of acrotarsium indistinct; middle toe, without claw, more than half as long as tarsus, its basal phalanx united to outer toe for entire length, to inner toe for more than half its length; outer toe, without claw, reaching to slightly beyond middle of subterminal phalanx of middle toe, the inner slightly shorter; hallux about as long as inner toe or slightly shorter, its claw shorter than the digit; all the claws rather slightly curved, sharp, much compressed.

Coloration.—Above plain olive, the pileum slate color, the wings dusky, with tips of middle and greater coverts and broad edges to inner secondaries fulvous; throat grayish white, chest and sides fulvous, abdomen pale yellow; no yellow on crown nor rump.

Nidification.—(Unknown.)

Range.—Nicaragua and Costa Rica. (Monotypic.)

APHANOTRICCUS CAPITALIS (Salvin).

SALVIN'S FLYCATCHER.

Adult male.—Pileum, hindneck, and sides of neck uniform dull slate color; back, scapulars, lesser wing-coverts, and rump, uniform olive, the upper tail-coverts similar but slightly more brownish; tail deep grayish brown, with light olive-brown or brownish olive edgings; wings (except lesser coverts) dull black or dusky, the middle and greater

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coverts rather broadly tipped with cinnamon or dull tawny, forming two distinct bands, the secondaries broadly edged (except basally) with the same, the primaries narrowly edged with light grayish olive; an indistinct supraloral streak and narrow orbital ring dull white; rest of sides of head, including lores, dull slate color, the auricular region with narrow shaft-streaks of white; chin and throat dull grayish white, faintly tinged with pale yellowish; chest and sides plain ochraceous-cinnamon, the remaining under parts pale canary or deep primrose yellow; axillars and under wing-coverts light ochraceous-cinnamon or cinnamon-buff; maxilla dusky brown or brownish black, mandible deep brownish, slightly paler basally; legs and feet brownish (in dried skins); length (skins), 110–124 (117); wing, 59–60 (59.5); tail, 52–53.5 (52.8); exposed culmen, 11–12.5 (11.8); tarsus, 14.5–15 (14.8); middle toe, 8–8.5 (8.3).[a]

Adult female.—Similar to the adult male, but back, etc., more brownish olive or olive-brown, and yellow of posterior under parts slightly deeper;[b] length (skins), 112; wing, 55.5; tail, 49; exposed culmen, 11.5; tarsus, 14.5; middle toe, 8.[c]

Eastern Costa Rica (Tucurriqui; Jiménez; Concepcion, near Jiménez) and eastern Nicaragua (Los Sábalos).

Myiobius capitalis Salvin, Proc. Zool. Soc. Lond., 1864 (pub. Apr. 1, 1865), 583 (Tucurriqui, Costa Rica; coll. Salvin and Godman).—Lawrence, Ann. Lyc. N. Y., ix, 1868, 114 (Tucurriqui).—Frantzius, Journ. für Orn., 1869, 308 (Costa Rica).—Nutting, Proc. U. S. Nat. Mus., vi, 1883, 403 (Los Sábalos, Nicaragua).—Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 59, pl. 40, fig. 1.

[*Myiobius*] *capitalis* Gray, Hand-list, i, 1869, 359, no. 5454.—Sclater and Salvin, Nom. Av. Neotr., 1873, 51.—Sharpe, Hand-list, iii, 1901, 134.

M[*itrephanes*] *capitalis* Ridgway, Proc. U. S. Nat. Mus., vi, 1883, 403 (Los Sábalos, Nicaragua; crit. and description).

Mitrephanes capitalis Sclater, Cat. Birds Brit. Mus., xiv, 1888, 220.

Aphanotriccus capitalis Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 207.

Genus TERENOTRICCUS Ridgway.

Terenotriccus[d] Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 207. (Type, *Myiobius fulvigularis* Salvin and Godman.)

Very small Tyrannidæ (wing about 50–53 mm.) with second phalanx of middle toe united for basal half to outer toe, acrotarsial scutella obsolete, rictal bristles as long as the rather small, depressed, triangular bill, and coloration mostly plain ochraceous.

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[a] Two specimens.

[b] The difference in all probability not sexual, but perhaps depending on fresher plumage of the female, the male from the same locality (Jiménez, eastern Costa Rica) agreeing exactly in coloration with one from Los Sabalos, eastern Nicaragua. The two males were collected January 10 and May 4, respectively; the female in June.

[c] One specimen.

[d] *Τέρενος*, soft, delicate; *τρίκκος*, a small bird.

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Bill much shorter than head, broadly wedge-shaped in vertical profile, depressed basally, its width at nostrils equal to at least one and one-half times its depth at same point, its lateral outlines nearly straight; exposed culmen about as long as middle toe without claw, indistinctly ridged, decurved nearly from base, the tip of maxilla distinctly but not abruptly uncinate; gonys much longer than mandibular rami, nearly straight; maxillary tomium faintly concave (more strongly so terminally), with distinct subterminal notch. Nostril exposed, rather large, roundish or broadly oval, with membrane above posterior half and behind. Rictal bristles very strongly developed (as long as bill), the feathers of chin with fine, those of the frontal antiæ with strong, bristly points. Wing moderate, with longest primaries exceeding secondaries by rather less than length of exposed culmen; sixth, seventh, and eighth primaries longest, the ninth and fifth, successively, a little shorter, the tenth (outermost) shorter than secondaries. Tail nearly four-fifths as long as wing, very slightly double-rounded, the rectrices rather narrow. Tarsus less than one-third as long as wing, slender, its scutellation typically exaspidean, but divisions of acrotarsium indistinct or obsolete (the tarsus practically "booted"); middle toe, without claw, slightly more than half as long as tarsus, the whole of its basal and about half of its second phalanx united to outer toe, its basal phalanx more than half united to inner toe; outer toe, without claw, reaching about to middle of subterminal phalanx of middle toe, the inner toe decidedly shorter (barely extending past second joint of middle toe); hallux longer than inner toe, stouter, its claw shorter than the digit; all the claws moderately curved, slender, sharp, much compressed.

Coloration.—Above plain grayish anteriorly, passing into ochraceous on wings and ochraceous-rufous on tail; beneath plain ochraceous-buff, paler on throat; no crest nor colored spot on crown.

Nidification.—(Unknown.)

Range.—Costa Rica to Guiana and Peru. (Monotypic.)

KEY TO THE SUBSPECIES OF TERENOTRICCUS ERYTHRURUS.

a. Throat more grayish; pileum, hindneck, and back gray; under parts paler. (British Guiana; Cayenne; Surinam.). . **Terenotriccus erythrurus erythrurus** (extralimital)[a]

aa. Throat pale tawny or buffy, becoming dull whitish toward chin; pileum, hindneck, and back grayish olive; under parts deep tawny. (Honduras to Peru.)

Terenotriccus erythrurus fulvigularis (p. 495)

[a] *Myiobius erythrurus* Cabanis, in Wiegmann's Archiv. für Naturg., 1844, i, 249, pl. 5, fig. 1 (Guiana); in Schomburgk's Reise Brit. Guiana, iii, 1848, 701; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 203, part (Bartica Grove, Camacusa, and Carimang R., British Guiana; Albina R., Surinam; Rio Capim, Pará, Lower Amazon).—*Terenotriccus erythrurus* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 207.

I have not been able to make a direct comparison of this form with *T. e. fulvigularis*, no specimen being at the present time available.

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TERENOTRICCUS ERYTHRURUS FULVIGULARIS (Salvin and Godman).

FULVOUS-THROATED FLYCATCHER.

Adults (*sexes alike*).—Pileum, hindneck, and back plain grayish olive, the forehead and lower back tinged, more or less strongly, with buffy cinnamon; sides of head lighter grayish olive, the eyelids cinnamon-buffy, the lores dull whitish; rump and under parts, including axillars, under wing-coverts, and broad edges to inner webs of secondaries, plain buffy ochraceous, the chin and throat paler and duller; upper tail-coverts and tail cinnamon-rufous or tawny-ochraceous; outer surface of closed wings mostly ochraceous, the alula and primary coverts nearly uniform dusky; maxilla dusky; mandible pale with darker or dusky tip; iris brown; legs and feet pale brownish or buffy in dried skins, clear yellow in life.[a]

Adult male.—Length (skins), 88–95 (92); wing, 46.5–52 (49.7); tail, 35–41 (38.9); exposed culmen, 7.5–9 (8.4); tarsus, 13–16 (14.6); middle toe, 8–9.5 (8.8).[b]

Adult female.—Length (skins), 84–99 (90); wing, 46–51 (47.2); tail, 35.5–40 (36.7); exposed culmen, 7.5–8.5 (8.1); tarsus, 13–15.5 (13.8); middle toe, 7.5–9 (8).[b]

Honduras (San Pedro Sula; Santa Ana), Nicaragua (Rio San Juan, near Castillo), Costa Rica (Angostura; Pacuare; Dos Novillas; Trojas; Talamanca; Rio Frio; Carrillo; Juan Viñas; Reventazon; Pozo Azul de Pirris), and Panama (Panama City; Bogaba; Divala; Chepo; Santa Fé de Veragua; Cascajal-Coclé), and southward through Colombia (Bogota) and Ecuador (Rio Napo; Sarayacu; Esmeraldas; Chimbo; Cachavi; Foreste del Rio Peripa) to eastern and central Peru (Yquitos; Chamicuros; Cosnipata; Xeberos; Chyavetas; Santa Cruz; Monterico).

Myiobius cinnamomeus (not *Muscipeta cinnamomea* D'Orbigny and Lafresnaye) Lawrence, Ann. Lyc. N. Y., vii, 1862, 328 (Panama R. R.).

Myiobius erythrurus (not of Cabanis) Sclater, Cat. Am. Birds, 1862, 226 (Esmeraldas, w. Ecuador; Rio Napo, e. Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 203

[a] Alfaro, manuscript.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from eastern Equador (Rio Napo)	48	38	9	13.5	8.5
Four adult males from Panama	48	38.4	8.2	14.1	8.6
Four adult males from Costa Rica	51.3	39.8	8.5	15.4	9
One adult male from Honduras (San Pedro Sula)	52	39	8.5		
FEMALES.					
Two adult females from Panama	45.5	36.3	8.3	14	8.5
Seven adult females from Costa Rica (6) and Nicaragua (1)	47.8	36.6	8.1	13.9	8
One adult female from Honduras (Santa Ana)	47	38	7.5	13.5	7.5

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(Yquitos, Cosnipata, and Chamicuros, e. Peru; Sarayacu, Rio Napo, and Esmeraldas, Ecuador; Bogota, Colombia; Chepo, Bugaba and Santa Fé de Veragua, Panama; Angostura, Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 472 (Panama R. R.); ix, 1868, 114 (Angostura and Pacuare, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (Santa Fé de Veragua); 1870, 198 (Bugaba, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873, 281 (Xeberos, Chyavetas, Chamicuros, and Santa Cruz, e. Peru).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 538 (Monterico, centr. Peru); 1882, 21 (Yurimaguas, n. e. Peru); Orn. du Pérou, ii, 1884, 301.—BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (San Carlos, Costa Rica).—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 557 (Chimbo, w. Ecuador; Sarayacu, e. Ecuador; Monterico, centr. Peru; crit.).—RIDGWAY, Proc. U. S. Nat. Mus., vi, 1884, 414 (Dos Novillas, Costa Rica); xiv, 1891, 471 (Santa Ana and San Pedro Sula, Honduras).

[*Myiobius*] *erythrurus* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873, 186 (Cosnipata, Peru); Nom. Av. Neotr., 1873, 186, part.—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 121 (e. Ecuador).

Myiobius fulvigularis SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, pt. 8, Feb., 1889, 58 (Santa Fé de Veragua, Panama; coll. Salvin and Godman).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Frio, Costa Rica; Rio San Juan, near Castillo, Nicaragua; habits).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 11 (Foreste del Rio Peripa, w. Ecuador).

[*Myiobius*] *fulvigularis* SHARPE, Hand-list, iii, 1901, 132.

Myiobius fulvogularis HARTERT, Novit. Zool., v, 1898, 488 (Cachavi, n. w. Ecuador).

Terenotriccus fulvigularis RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 207.

Genus MITREPHANES Coues.

Mitrephorus (not of Schönherr, 1837) SCLATER, Proc. Zool. Soc. Lond., 1859, 44. (Type, *M. phæocercus* Sclater.)

Mitrephanes COUES, Bull. Nutt. Orn. Club, vii, Jan., 1882, 55, in text. (New name for *Mitrephorus* Sclater, preoccupied.)

Small Tyrannidæ (wing about 65–75 mm.) with rather short, depressed triangular bill, conspicuous rictal bristles, long and pointed wing, rather long and deeply emarginate tail, feeble feet, imperfectly exaspidean (quasi-holaspidean) tarsal envelope, pointed crest, and plain coloration, the under parts tawny or ochraceous (sometimes yellowish on abdomen).

Bill about half as long as head, broad and much depressed basally (its width at frontal antiæ equal to at least half the length of exposed culmen and about twice its depth at same point), more or less broadly triangular in vertical profile, with lateral outlines more or less concave toward the attenuated tip of maxilla; exposed culmen shorter than middle toe with claw, distinctly ridged, straight or very faintly convex for most of its length, rather abruptly decurved terminally, the tip of maxilla distinctly but finely uncinate; gonys much longer than mandibular rami, nearly straight or very faintly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed,

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longitudinally broadly oval, margined above and behind by rather broad membrane. Rictal bristles very strongly developed, about half as long as bill, the feathers of chin and frontal antiæ with distinct bristly tips, and a tuft of stiff antrorse bristles at malar apex. Wing long and pointed, the longest primaries exceeding secondaries by much more than length of tarsus; eighth and ninth, or seventh, eighth, and ninth primaries longest, the tenth (outermost) equal to or longer than fifth. Tail about six-sevenths to twelve-thirteenths as long as wing, deeply emarginate, strongly divaricate. Tarsus one-fifth to a little more than one-sixth as long as wing, slender, its scutellation quasi-holaspidean, the outer edge of the acrotarsium not reaching to the posterior edge of the tarsus (except sometimes for a very short distance below middle portion), the posterior portion, especially above the middle, being occupied by a series of distinct longitudinal scutella, which sometimes do and sometimes do not meet the inner edge of the acrotarsium[a]; middle toe, without claw, more than half as long as tarsus, but decidedly shorter than exposed culmen, its basal phalanx almost wholly united to outer toe, about half united to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux about equal to inner toe, decidedly stouter, its claw shorter than the digit; all the claws rather strongly curved, very sharp, much compressed.

Coloration.—Above plain cinnamon-olive to greenish olive, the pileum, including pointed crest, more brown or dusky; wings dusky, with two light brownish or fulvous bands; under parts ochraceous or tawny, paler posteriorly, the abdomen sometimes yellowish.

Nidification.—(Unknown?)

Range.—Mexico to Peru. (Five species.)[b]

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[a] Occasionally the tarsal scutella are so nearly fused that this series of scutella is not very distinctly defined, but usually they are very obvious. The series does not extend the full length of the tarsus, but is interrupted by at least a part of one of the acrotarsial scutella which extends entirely across the outer side of the tarsus. This same arrangement of the tarsal envelope is seen, but developed to a less degree, in some species of *Blacicus*, *Myiochanes*, and other genera, and is a decided step toward the holaspidean tarsal envelope of some genera of alleged Cotingidæ, showing how precarious the character really is as the main basis of family distinction.

[b] The three extralimital species, of which I have not seen specimens, are the following:

(1) *Mitrephorus ochraceiventris* Cabanis, Journ. für Orn., 1873, 320 (Marayniоc, centr. Peru; coll. Berlin Mus.); Taczanowski, Proc. Zool. Soc. Lond., 1874, 538 (Marayniоc); Orn. du Pérou, ii, 1884, 315.—*Mitrephanes ochraceiventris* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 220; Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1896, 367 (Marayniоc centr. Peru).

(2) *Mitrephanes olivaceus* Berlepsch and Stolzmann, Ibis, July, 1894, 391 (Garita del Sol, e.-central Peru; coll. Count von Berlepsch).

(3) *Mitrephanes berlepschi* Hartert, Novit. Zool., ix, Dec., 1902, 608 (Bulún, n. Ecuador; coll. Tring Mus.?).

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KEY TO THE SPECIES AND SUBSPECIES OF MITREPHANES.

a. Anal region and lower abdomen buff (more or less deep); back, etc., olive-brownish. (*Mitrephanes phæocercus.*)

b. Smaller, with relatively shorter bill (male averaging wing 71.4, exposed culmen 9.6, female wing 68.4, exposed culmen 9.2); coloration darker, the pileum sepia brown, back brownish olive, breast, etc., rufous-cinnamon or russet. (Southeastern Mexico.).....**Mitrephanes phæocercus phæocercus** (p.498)

bb. Larger, with relatively longer bill (male averaging wing 74.1, exposed culmen 10.5, female wing 70.5, exposed culmen 10.1); coloration paler, the pileum light olive-brown, back light buffy olive-brown; breast, etc., dull tawny-ochraceous or clay color. (Northwestern Mexico.)

Mitrephanes phæocercus tenuirostris (p. 500)

aa. Anal region and lower abdomen light yellow; back, etc., greenish olive. (Costa Rica; Panama) .....**Mitrephanes aurantiiventris** (p. 501)

MITREPHANES PHÆOCERCUS PHÆOCERCUS (Sclater).

DUSKY-TAILED FLYCATCHER.

Adults (*sexes alike*).—Pileum deep olive-brown, bister, or sepia, the feathers of crest sometimes with indistinct darker shaft-streaks; hindneck, back, scapulars, lesser wing-coverts, rump, and upper tail-coverts plain, lighter, less brownish, olive; tail deep to dark grayish brown, the outer webs of rectrices passing into lighter grayish brown on edges; wings (except lesser coverts) dusky, the middle and greater coverts tipped with cinnamon or cinnamon-buffy (forming two distinct bands), the secondaries edged (except basally) with pale cinnamon-buffy or dull whitish, the primaries narrowly and indistinctly edged with light grayish brown or olive; lores dull brownish white or pale cinnamomeous, suffused or clouded with dusky; a narrow and usually indistinct orbital ring of buffy whitish or pale cinnamon-buffy; rest of side of head, sides of neck, and under parts plain tawny-ochraceous or russet, deepest on chest and sides of head and neck, paler (sometimes dull whitish) on chin, and fading on flanks, lower abdomen, and under tail-coverts into deep buff or clay color; axillars and lining of wing ochraceous-buff or tawny-buff; inner webs of remiges edged with pale vinaceous-buff; maxilla dark brown or blackish, mandible pale (yellowish in life?); iris brown; legs and feet brownish black.

Adult male.—Length (skins), 122–125 (123); wing, 69.5–73 (71.4); tail, 60–63.5 (61.7); exposed culmen, 9–10 (9.6); tarsus, 12–13.5 (12.6); middle toe, 6.5–7 (6.8).[a]

[a] Five specimens from southern Mexico.

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Adult female.—Length (skins), 116–129 (121); wing, 66–72 (68.4); tail, 57.5–62 (60.2); exposed culmen, 8.5–10 (9.2); tarsus, 12–13 (12.6); middle toe, 6.5–7.5 (7).[a]

Southern Mexico, in States of Vera Cruz (Cordova; Jalapa; Cofre de Perote; Orizaba; Texolo), Mexico (Tetelco; Ixtapalapa);[b] Morelos (Cuernavaca; Tetela del Volcan);[c] Michoacan (Mount Tancitaro) [c] and Oaxaca (Talea; La Parada; Cerro San Felipe; 15 miles west of Oaxaca City); Guatemala (Coban; Dueñas; Calderas; Volcan de Fuego; Quezaltenango; Quiché; Uspantán; mountains above Cabulco; ridge above Totonicapam); Nicaragua (Matagalpa).[d]

Tyrannula ——? SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz).

Empidonax ——? SCLATER, Proc. Zool. Soc. Lond., 1858, 302 (La Parada, Oaxaca).

Mitrephorus phæocercus SCLATER, Proc. Zool. Soc. Lond., 1859, 44 (Cordova, Vera Cruz, Mexico; coll. P. L. Sclater), 384 (Talea, Oaxaca); Ibis, 1859, 442, pl. 14, fig. 2 (Cordova and Orizaba, Vera Cruz; La Parada, Oaxaca; crit.); Cat. Am. Birds, 1862, 228 (Cordova; Coban, Guatemala).—SCLATER and SALVIN, Ibis, 1859, 122 (Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—SALVIN, Cat. Strickland Coll., 1882, 313 (Guatemala).

[*Mitrephorus*] *phæocercus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.

[*Pyrocephalus*] *phæocercus* GRAY, Hand-list, i, 1869, 361, no. 5487.

Mitrephanes phæocercus COUES, Bull. Nutt. Orn. Club, vii, Jan., 1882, 55.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 219, part (Cordova and Jalapa, Vera Cruz; Oaxaca; Coban, Calderas, and Volcan de Fuego, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 66, part (Tetelco and Ixtapalapa, Mexico; Jalapa, Cofre de Perote, Orizaba, and Cordova, Vera Cruz; Talea, Oaxaca; Coban, Dueñas, Volcan de Fuego, ridge above Totonicapam, and Quezaltenango, Guatemala).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 31 (Jalapa, Vera Cruz).

M[itrephanes] phæocercus SALVIN and GODMAN, Ibis, 1892, 326 (Matagalpa, Nicaragua; crit.).

[*Mitrephanes*] *phæocercus* SHARPE, Hand-list, iii, 1901, 136.

[a] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
FEMALES.					
Four adult females from southern Mexico	68.9	60.9	9.2	12.5	7
Two adult females from Guatemala	67.5	59	9.3	12.8	7

Three Guatemalan specimens (one of them with sex undetermined) are more deeply colored than the majority of Mexican examples, and it is not improbable that a sufficient series may show that there is enough difference between the birds from the two countries to justify subspecific separation.

[b] Specimens not seen from State of Mexico; probably they are, like those from Morelos and Michoacan, intermediate between the typical form and *M. p. tenuirostris*.

[c] Specimens from these localities incline toward *M. p. tenuirostris*.

[d] Nicaraguan specimens not seen by me. They should be carefully compared with Mexican examples.

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MITREPHANES PHÆOCERCUS TENUIROSTRIS Brewster.

SLENDER-BILLED FLYCATCHER.

Similar to *M. p. phæocercus*, but averaging larger and coloration decidedly paler, the pileum often strongly tinged with cinnamomeous, the back, etc., light buffy olive, the chest between tawny-ochraceous and clay color, fading into slightly yellowish buff on abdomen, flanks, and under tail-coverts.

Young.—Above deep broccoli brown (the pileum darker, more sepia), the feathers conspicuously but narrowly tipped with buffy; middle and greater wing-coverts broadly tipped with cinnamon-buff, and inner secondaries broadly edged with same; otherwise like adults, but feathers on sides of neck, chest, and sides of breast very narrowly and indistinctly tipped with paler.

Adult male.—Length (skins), 122–132 (126); wing, 72–76 (74.1); tail, 59.5–66 (62.2); exposed culmen, 9.5–11.5 (10.5); tarsus, 12–14 (12.8); middle toe, 6.5–7.5 (7.1).[a]

Adult female.—Length (skins), 122–130 (124); wing, 68.5–73.5 (70.5); tail, 57–64.5 (60.2); exposed culmen, 9.5–11 (10.1); tarsus, 11.5–13 (12.7); middle toe, 6.5–7.5 (7.1).[b]

Western Mexico, in States of Sonora (Oposura; Alamos), Chihuahua (Pinos Altos; Mina Abundancia), Durango (El Salto; Chacala; Durango City), Zacatecas (Sierra de Valparaiso); Sinaloa (Mazatlan; Presidio, near Mazatlan), Jalisco (La Laguna; San Sebastian; near Bolaños), and Guerrero (Amula; Omilteme; mountains near Chilpancingo), and Territory of Tepic (Santa Teresa).

[*Mitrephorus*] *phæocercus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.

Mitrephorus phæocercus (not of Sclater) LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan).

Mitrephanes phæocercus SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 219, part (Presidio, near Mazatlan; Ciudad Durango).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 66, part (Oposura, Sonora; Presidio, near Mazatlan;

[a] Seventeen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Sonora (5) and Chihuahua (5)	74.5	62.9	10.7	12.8	7.1
Two adult males from Durango	73.8	61.5	10.5	12.8	7.3
Three adult males from Jalisco	74.2	61	9.8	12.7	6.8
Two adult males from Guerrero	72	60.8	10.5	12.8	7
FEMALES.					
Six adult females from Sonora (3) and Chihuahua (3)	71.3	61	10.3	12.8	7.3
Three adult females from Jalisco	69.5	59.2	10	12.3	6.8
One adult female from Michoacan	69.5	59	9.5	13	7
One adult female from Guerrero	70.5	60	10	12.5	7

Specimens from Jalisco, Durango, Michoacan, and Guerrero are more or less intermediate between this form and *M. p. phæocercus*.

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Mazatlan; Ciudad Durango; Sierra de Valparaiso, Zacatecas; Amula and Omilteme, Guerrero).

Mitrephanes phæocercus tenuirostris BREWSTER, Auk, v, no. 2, Apr., 1888, 137 (Oposura, Sonora, Mexico; coll. W. Brewster).

[*Mitrephanes*] *tenuirostris* SHARPE, Hand-list, iii, 1901, 136.

MITREPHANES AURANTIIVENTRIS (Lawrence).

YELLOW-VENTED FLYCATCHER.

Adults (*sexes alike*).—Above bright greenish olive, the pileum somewhat darker, with feathers (especially those of crest) dark grayish brown or dusky medially, producing more or less distinct streaks; upper tail-coverts and tail dusky grayish brown, the outer webs of rectrices more olive toward edges; wings (except lesser coverts) dusky, the middle coverts tipped with light olive, the greater coverts tipped with paler olive or buffy, the secondaries edged (except basally) with the same (the edgings usually more whitish or pale yellowish on inner secondaries); lores dusky brown, sometimes intermixed with pale cinnamon, buff, or whitish; auricular region olive-tawny, with narrow and indistinct shaft-streaks of paler; sides of neck, throat, chest, and sides of breast plain tawny-cinnamon, passing posteriorly into pale buffy yellow (nearly naples yellow) on flanks, lower abdomen, and under tail-coverts; axillars and under wing-coverts similar in color to chest, the coverts near edge of wing more olivaceous and intermixed with dusky; inner webs of remiges edged with light grayish brown; maxilla dusky brown or blackish, mandible pale yellowish; iris brown; legs and feet dusky brown or brownish black.

Young.—Essentially like adults, but upper parts brown, the feathers tipped with cinnamon-buffy; posterior under parts light buff instead of yellowish.

Adult Male.—Length (skins), 109–120 (116); wing, 61.5–69.5 (63.1); tail, 52.5–61 (55.7); exposed culmen, 8.5–11.5 (10.5); tarsus, 12–13.5 (12.5); middle toe, 6.5–7.5 (7).[a]

Adult female.—Length (skins), 106–120 (112); wing, 57.5–63.5 (59.8); tail, 48–55 (51.3); exposed culmen, 9.5–11 (10.1); tarsus, 12–13 (12.2); middle toe, 6.5–8 (6.9).[b]

[a] Thirteen specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Costa Rica	64.9	55.4	10.2	12.5	7.1
Four adult males from Panama (Boquete, Chiriquí)	65.9	56.4	11	12.5	6.9
FEMALES.					
Six adult females from Costa Rica	59.6	50.8	10.1	12.2	6.9
Four adult females from Panama (Boquete)	60.3	51.3	10.1	12.2	6.9

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Costa Rica (Tabacales; Dota; La Palma de San José; Cervantes; Barranca; Tucurriqui; Naranjo; La Candelaria; La Laguna; San Mateo; Volcan de Irazú; Volcan de Barba; Cariblanco de Sarapiqué; Coliblanco; San Carlos; Carrillo; El Achiste; Buena Vista), and northern Panama (Calovevora; Calobre; Chitra; Volcan de Chiriqui; Boquete).

Mitrephorus aurantiiventris LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 173 (Tabacales, Costa Rica; coll. U. S. Nat. Mus.); ix, 1868, 114 (Tabacales, La Palma, and Dota, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 198 (Calovevora, Panama).—FRANTZIUS, Journ. für Orn., 1869, 308 (Candelaria, Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (La Laguna, Naranjo, Candelaria, and San Mateo, Costa Rica, 4,000 to 8,000 ft.; habits).

[*Mitrephorus*] *aurantiiventris* SALVIN, Ibis, 1869, 315, in text (crit.).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51.

[*Pyrocephalus*] *aurantiiventris* GRAY, Hand-list, i, 1869, 361, no. 5489.

Mitrephanes aurantiiventris COUES, Bull. Nutt. Orn. Club, v, Jan., 1882, 55.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 219 (Tucurriqui, Irazú, and Barranca, Costa Rica; Calobre, Chitra, Volcan de Chiriqui, and Calovevora, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1859, 67.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 37 (Boquete, Panama, 4,000 to 4,800 ft.).

M[*itrephanes*] *aurantiiventris* BERLEPSCH and STOLZMANN, Ibis, 1894, 391, in text.

[*Mitrephanes*] *aurantiiventris* SHARPE, Hand-list, iii, 1901, 136.

Mitrephorus phæocercus (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 114 (Costa Rica;=young).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).

Genus DELTARHYNCHUS Ridgway.

Deltarhynchus[a] RIDGWAY, Proc. U. S. Nat. Mus., xvi, no. 955, Oct. 25, 1893, 606. (Type, *Myiarchus flammulatus* Lawrence.)

Rather small Tyrannidæ (wing about 75 mm.) related to *Myiarchus* but differing in relatively shorter and broadly triangular bill, wholly exposed, circular, and less widely separated nostrils, shorter tenth primary (equal to first instead of equal to or longer than third), and partly streaked under parts.

Bill about half as long as head, much depressed, broadly triangular in vertical profile, its width at frontal antiæ nearly equal to distance from nostril to tip of maxilla, nearly if not quite equal to length of gonys, and twice its depth at same point; exposed culmen longer than middle toe without claw, distinctly ridged, straight to near tip, where rather abruptly decurved, the tip of maxilla obtusely uncinate; gonys much longer than mandibular rami, slightly convex; maxillary tomium nearly straight, minutely notched subterminally. Nostril wholly exposed, nearly circular, much nearer to culmen than to commissure, opening almost vertically. Rictal bristles well developed, and feathers of chin, malar antiæ and frontal antiæ with distinct bristly points, the first recurved, the last arched and semierect. Wing

[a] Δέλτα, delta; ῥύγχος, bill, from its broadly triangular bill.

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moderate, much rounded, the longest primaries exceeding distal secondaries by about length of exposed culmen; seventh primary longest, sixth and eighth equal and slightly shorter, ninth slightly longer than fifth, and tenth (outermost) equal to first. Tail very slightly shorter than wing, slightly rounded, the rectrices rather narrow, with broadly rounded tip. Tarsus decidedly longer than middle toe with claw, less than one-fourth as long as wing, its scutellation typically exaspidean but a separate row of longitudinal scutella along upper posterior portion of outer side of tarsus, the acrotarsial divisions very distinct; middle toe, without claw, decidedly more than half as long as tarsus, its basal phalanx united to outer toe for nearly its entire length, to inner toe for about half its length; outer toe, without claw, reaching to or slightly beyond middle of subterminal phalanx of middle toe, the inner toe scarcely shorter; hallux slightly shorter than inner toe but stouter, its claw nearly as long as the digit; all the claws rather large, strongly curved, sharp, compressed.

Coloration.—Above plain light olive, the wings and tail dusky hair brown with fulvous edgings, the middle and greater wing-coverts broadly tipped with fulvous; throat grayish white, the lower part obsoletely flecked with pale gray; chest light gray; remaining under parts pale yellow, the sides of breast broadly but indistinctly streaked with pale gray.

Nidification.—(Unknown.)

Range.—Southwestern Mexico. (Monotypic.)

DELTARHYNCHUS FLAMMULATUS (Lawrence).

FLAMMULATED FLYCATCHER.

Adults (*sexes alike*).—Above plain light grayish olive, faintly tinged with olive-green or light greenish olive on back and rump; upper tail-coverts light grayish brown medially, broadly edged with cinnamon; tail deep grayish brown, the outer webs of rectrices edged with cinnamon, the lateral rectrix with outer web pale grayish buffy; inner webs of rectrices passing into pale dull cinnamon on edges; wings (except lesser coverts) dusky, the middle coverts broadly tipped with buffy cinnamon or cinnamon-buff, the greater coverts with terminal portion of outer web broadly edged with the same, and posterior lesser coverts tipped with a duller hue of the same; secondaries edged with cinnamon-buff, the edgings broader and more whitish or pale yellowish on inner secondaries (tertials); primaries narrowly edged with grayish buffy; lores and narrow orbital ring whitish, the former suffused with grayish or dusky in front of eye; auricular region light grayish olive with narrow shaft-streaks of whitish; chin and throat grayish white, the lower portion of the latter suffused or clouded with pale gray; chest pale gray, broadly but indistinctly streaked with white (with pale yellow posteriorly); rest of under parts pale sulphur

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or primrose yellow; axillars and under wing-coverts pale buffy yellow or yellowish buff; inner webs of remiges broadly edged with pale buff or cream buff; maxilla brownish black, more brownish basally; mandible the same, or dusky brown with paler brown base; iris brown; legs and feet dusky brown or blackish.

Adult male.—Length (skins), 154–161 (157); wing, 77.5–80 (78.8); tail, 72.5–75 (73.8); exposed culmen, 15–15.5 (15.3); tarsus, 18; middle toe, 10.5.[a]

Adult female.—Length (skins), 153–158 (155); wing, 71.5–75 (73.3); tail, 68–70 (69); exposed culmen, 14.5; tarsus, 18.5; middle toe, 10–10.5 (10.3).[a]

Southwestern and southern Mexico, in States of Jalisco (La Palma), Guerrero (El Naranjo; La Lagunilla), Oaxaca (Cacoprieto), and Chiapas (Tuxtla Gutierrez).

Myiarchus flammulatus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., xi, 1876, (pub. Feb., 1875), 71 (Cacoprieto, Oaxaca, s. Mexico; coll. U. S. Nat. Mus.); Bull. U. S. Nat. Mus., no. 4, 1876, 28.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 263.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 96, pl. 37, fig. 2.

M[yiarchus] flammulatus RIDGWAY, Proc. Biol. Soc. Wash., ii, 1884, 93 (Tehuantepec; "Mazatlan," error!); Man. N. Am. Birds, 1887, 335.

[*Deltarhynchus*] *flammulatus* SHARPE, Hand-list, iii, 1901, 147.

Genus NUTTALLORNIS Ridgway.

Nuttallornis[b] RIDGWAY, Man. North Am. Birds, Sept., 1887, 337. (Type, *Tyrannus borealis* Swainson.) (See Oberholser, Auk, xvi, 1899, 331.)

Medium sized Tyrannidæ (wing about 100–115 mm.) with tail only one-third as long as wing, tarsus only one-seventh as long as wing and decidedly shorter than middle toe with claw, and with a conspicuous patch of white silky feathers on each side of rump.

Bill much shorter than head, moderately broad and but slightly depressed basally (its width at frontal antiæ much less than length of gonys and much less than twice its depth at same point), its lateral outlines straight and converging gradually to the acute but not constricted tip; exposed culmen about equal in length to tarsus, rather distinctly ridged, straight to near tip where rather abruptly decurved, the tip of maxilla moderately uncinate; gonys nearly twice as long as mandibular rami, straight; maxillary tomium nearly straight, distinctly notched subterminally. Nostril partly exposed, longitudinally oval, without membrane along upper margin. Rictal bristles small but distinct; feathers of chin with indistinct and minute recurved bristly tips, those of frontal antiæ with distinct setæ arching over and

[a] Two specimens.

[b] In memory of Thomas Nuttall, who wrote the first and best account of the habits of the type species.

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partly concealing nostrils; malar apex with distinct antrorse and semi-erect setæ. Wing very long and pointed, the longest primaries exceeding distal secondaries by much more than one third the total length of wing; ninth primary longest, eighth and tenth (outermost) a little shorter and about equal. Tail about one-third as long as wing, rather deeply emarginate, non-divaricate, the rectrices rather narrow. Tarsus shorter than middle toe with claw, less than one-seventh as long as wing, its scutellation essentially exaspidean but with outer edge of acrotarsium not bending around posterior margin of tarsus, there being a rather indistinct row of longitudinal scutella along upper posterior portion of outer side of tarsus and a narrow space occupied by small, irregularly hexagonal scutella along the posterior margin; basal phalanx of middle toe united to outer toe for nearly its entire length, to inner toe for about half its length; outer toe, without claw, reaching to about middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux slightly shorter than inner toe, slightly stouter, its claw shorter than the digit; all the claws rather strongly curved, sharp, compressed.

Coloration.—Above plain olive, darker on pileum, the wings dusky with paler edgings; beneath white or yellowish white medially, light grayish olive, with darker shaft-streaks, laterally; on each side of rump a conspicuous tuft of soft, silky, white feathers.

Nidification.—Nest on horizontal branch (usually of a coniferous tree), shallow cup-shaped, composed of small twigs, grass stems, bark strips, etc., lined with moss, soft grasses, etc. Eggs creamy white or pale cream color, spotted round larger end with deep reddish brown, lavender, etc.

Range.—More northern portions of North America and coniferous forests of higher mountain ranges southward to North Carolina and Guatemala; in winter south to Peru. (Monotypic.)

NUTTALLORNIS BOREALIS (Swainson).

OLIVE-SIDED FLYCATCHER.

Adults (sexes alike).—Above plain slaty olive or dark smoke gray, the feathers (especially on pileum) more or less distinctly darker centrally or mesially; tail dusky, the outer webs of rectrices edged with grayish olive; wings sooty blackish, the middle coverts margined terminally with grayish olive, the greater coverts narrowly edged with the same (passing into whitish terminally), the secondaries edged (except basally) with grayish white, more broadly on inner secondaries (tertials); sides of head (including malar region) and neck plain slaty olive, like upper parts; chest (except median line), sides of breast, sides, and flanks brownish gray, more or less tinged

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with olive, more or less broadly, but indistinctly, streaked with darker; rest of under parts white (often more or less tinged with pale yellow), the sides of throat and median portion of chest streaked with brownish gray, the under tail-coverts with broad sagittate or V-shaped markings of the same; axillars and under wing-coverts brownish gray narrowly edged with paler; a conspicuous patch of soft, fluffy white or yellowish white feathers above flanks (on sides of rump), usually concealed but capable of being spread over secondaries of the closed wing; maxilla brownish black, mandible pale brownish with more or less of terminal portion dusky; iris brown; legs and feet dusky brown or brownish black.

Young.—Essentially like adults, but middle and greater wing-coverts narrowly margined terminally with brownish buffy, the secondaries edged with the same or brownish white; general color of upper parts, sides, etc., more brownish or sooty, and under tail-coverts sometimes immaculate white.

Adult male.—Length (skins), 165–188 (175); wing, 105–114.5 (109.9); tail, 68–77.5 (71.9); exposed culmen, 15.5–18.5 (17.1); tarsus, 14.5-15.5 (14.9); middle toe, 11.5–12.5 (12).[a]

Adult female.—Length (skins), 157–180 (168); wing, 98.5–110.5 (104.7); tail, 63–71.5 (68.3); exposed culmen, 15–18 (16.7); tarsus, 14.5–16 (15); middle toe, 11–12 (11.4).[b]

Breeding from shores of Hudson Bay to Alaska (Caribou Crossing; Six Mile River; Bennett; Yukon Valley), and southward, in coniferous woods, to Massachusetts (Mount Auburn and Brookline, near Boston; Lynn; Winchendon; Berkshire County, etc.), mountains of Pennsylvania (Lycoming County; Perry County?; Lancaster County?), northern New York, northern Michigan (Crawford and Oscoda counties), northeastern Illinois (Cook County)?, and western Kansas (near

[a] Nineteen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Atlantic States	107.8	70.5	16.3	14.8	11.5
Nine adult males from Rocky Mountain district	111.6	73.2	17.6	14.8	12.1
Five adult males from Pacific coast district	109.6	71.5	18	15.2	12.1
Two adult males from Alaska	108.8	69.3	17	15.3	12.3
FEMALES.					
One adult female from Maine	98.5	63	15	14.5	11
Seven females from Rocky Mountain district	104.3	68.3	16.9	14.9	11.4
Three adult females from Pacific coast district	107.7	70	16.7	15.5	11.5

I am unable to appreciate any constant color differences according to locality.

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Wallace), and in the coniferous forests of the western United States to New Mexico and Arizona, probably also in Mexico and possibly farther,[a] also along the higher Alleghenies at least to North Carolina; migrating southward through mountain districts of Mexico, Central America,[b] and northern South America to Colombia (Minca, La Concepcion, and San Lorenzo, Santa Marta; Bogotá), western Ecuador (Gualea), and Peru (Huambo).[b] Accidental in Greenland.

(??) *Muscicapa mesoleuca* LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 2 (Mexico); Journ. für. Orn., 1863, 58 (reprint); see Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 81.

Contopus mesoleucus SCLATER, Proc. Zool. Soc. Lond., 1859, 43 (Orizaba, Vera Cruz); Ibis, 1859, 440 (Orizaba; Guatemala).—SCLATER and SALVIN, Ibis, 1859, 122 (Guatemala), 440 (s. Mexico; Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (alpine region of Vera Cruz).

[*Pyrocephalus*] *mesoleucus* GRAY, Hand-list, i, 1869, 362, no. 5508.

Tyrannus borealis SWAINSON, Fauna Bor.-Am., ii, 1831 (pub. Feb., 1832), 141, pl. 35 (Cumberland House, banks of the Saskatchewan, lat. 54° N.).—SALVIN, Ibis, 1866, 203 (Guatemala).

Contopus borealis BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 188; Cat. N. Am. Birds, 1859, no. 137.—SCLATER, Proc. Zool. Soc. Lond., 1858, 301 (La Parada, Oaxaca; crit.); 1859, 384 (Cinco Señores); Ibis, 1859, 440 (Cordova, Vera Cruz; La Parada); Cat. Am. Birds, 1862, 230; Cat. Birds Brit. Mus., xiv, 1888, 234 (Orizaba; Coban and Dueñas, Guatemala; Irazú, Costa Rica; Calobre, Panama; Minca and Bogota, Colombia).—XANTUS, Proc. Ac. Nat. Sci. Phila., 1859, 190 (Fort Tejon, California).—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 37 (Cosumnes R., California).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 169 (Fort Steilacom, Puget Sound, etc., Washington).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 290 (near New York City); ix, 1868, 115 (Costa Rica).—DRESSER, Ibis, 1865, 474 (San Antonio, Texas, winter).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 118 (South Carolina); Check List, 1873, no. 253; 2d ed., 1882, no. 380; Birds Northwest, 1874, 243.—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—COOPER, Orn. Cal., i, 1870, 323.—SALVIN, Proc. Zool. Soc. Lond., 1870, 199 (Calobre, Panama).—AIKEN, Proc. Bost. Soc. N. H., 1872, 206 (Wyoming).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (mountains Colorado, up to 12,000 ft.; Wahsatch Mts., Utah).—MERRIAM, Rep. U. S. Geol. Surv. Terr., 1872, 691 (Idaho).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 353, pl. 44, fig. 1.—HENSHAW, Rep. Orn. Spec. Wheeler's Survey, 1873 (1874), 85 (Fort Garland, Colorado; habits), 126 (Apache, Arizona); Zool. Exp. W. 100th Merid., 1875, 350 (Nevada; near Fort Garland, Rio Grande, etc., Colorado; Willow Spring, etc., Arizona; habits).—RIDGWAY, Bull. Essex Inst., v,

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[a] The writer found the species rather common at Coliblanco, Costa Rica (about 6,000 feet altitude), as late as May 8, and near the end of May near the summit of Irazú, at about 10,500 to 11,000 feet.

[b] Mexican and Central American localities which I am able to cite are as follows:

Tamaulipas (Sierra Madre above Ciudad Victoria); Vera Cruz (Orizaba; Cordova; Jalapa; Cuesta de Misantla); Oaxaca (La Parada; Cinco Señores; Cacoprieto); Guerrero (Rio de Papagaio); Guatemala (Coban; Dueñas); Costa Rica (Irazú; Coliblanco; San José; Volcan de Miravalles) Panama (Calobre).

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1875, 21, 33 (East Humboldt Mts., Nevada; Parleys Park, Utah); Orn. 40th Parallel, 1877, 535 (do.); Nom. N. Am. Birds, 1881, no. 318.—NELSON, Bull. Essex Inst., viii, 1876, 113, 152 (n. e. Illinois, migr., breeding?); Nat. Hist. Coll. Alaska, 1887, 161 (lower Yukon, lat. 63°).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Cacoprieto, Oaxaca).—BENDIRE, Proc. Bost. Soc. N. H., 1877, 127 (Camp Harney, e. Oregon; breeding).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 137 (Fort Brown, Texas, migr.).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 177 (descr. young); vii, 1882, 205 (Santa Rita Mts., Arizona); Auk, iii, 1886, 105 (Macon County, North Carolina, breeding); v, 1888, 389, 390 (Winchendon, Massachusetts, breeding).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 94 (Twin Lakes, Colorado).—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 195 (Fort Klamath, Oregon, breeding).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., v, no. 3, 1879, 405 (Lomita Ranch, Texas, May).—BELDING, Proc. U. S. Nat. Mus., i, 1878, 424 (Big Trees, Calaveras County, California, breeding; habits and notes).—SALVIN and GODMAN, Ibis, 1880, 125 (Minca, Santa Marta, Colombia, 2,000 ft.); Biol. Centr.-Am., Aves, ii, 1889, 80.—MINOT, Bull. Nutt. Orn. Club, v, 1880, 231 (Boulder and Pikes Peak, Colorado, 10,000 ft.; notes).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (Grand Falls and Fairfield, Maine).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1882, 22 (Huambo, n. e. Peru); Orn. du Pérou, ii, 1884, 316.—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—MERRIAM, Bull. Nutt. Orn. Club, viii, 1883, 244 (Point de Monts, Quebec).—DREW, Auk, ii, 1885, 15 (Colorado, breeding between 7,000 and 12,000 ft.).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 156 (Jalapa, Vera Cruz).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 459.—SMITH and PALMER, Auk, v, 1888, 148 (Fairfax County, Virginia, Sept.).—BRITTAIN and COX, Auk, vi, 1889, 117 (Restigouche Valley, New Brunswick, common in summer).—MEARNS, Auk, vii, 1890, 255 (San Francisco, White, and Mogollon Mts., Arizona, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 152 (Mississippi Valley localities, etc.).—FAXON, Auk, vi, 1889, 100 (Berkshire County, Massachusetts, breeding).—CHERRIE, Auk, vii, 1890, 334 (San José, Costa Rica); ix, 1892, 251 (San José, Costa Rica, Oct. 2 to May 7).—WARREN, Birds Penn., 1890, 194 (breeding in Lycoming and probably in Perry County; formerly breeding in Lancaster County?).—Goss, Hist. Birds Kansas, 1891, 364 (breeding near Wallace, w. Kansas).—LOWE, Auk, xi, 1894, 268 (Wet Mts., Colorado, breeding at 9,500 ft.).—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—BISHOP, North Am. Fauna, no. 19, 1900, 79 (Six Mile R., Bennett, and Caribou Crossing, Alaska).—GOODFELLOW, Ibis, 1901, 707 (Gualea, w. Ecuador).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 257.—SCHALOW, Vögel der Arktis, 1904, 236 (s. w. Greenland, 1 spec., Aug. 29, 1840).

[*Contopus*] *borealis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 146 (Jalapa).

C[*ontopus*] *borealis* COUES, Key N. Am. Birds, 2d ed., 1884, 438.—RIDGWAY, Man. N. Am. Birds, 1887, 337.

Nuttallornis borealis OBERHOLSER, Auk, xvi, Oct., 1899, 331.—BANGS, Proc. Biol. Soc. Wash., xiii, 1899, 98 (La Concepcion, Santa Marta, Colombia, 3,000 ft., Mar. 8); Proc. New Engl. Zool. Club, iii, 1902, 39 (Boquete, Panama, 4,000 ft., Apr. 20).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 143 (San Lorenzo, Santa Marta, Colombia).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 24 (Huachuca Mts., Arizona).—BAILEY (Florence M.), Auk, xxi, 1904, 355 (upper Pecos R., New Mexico, 7,800 to 11,600 ft.).—WOOD and FROTHINGHAM, Auk, xxii, 1905, 48 (Crawford and Oscoda counties, n. Michigan, June).

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[*Nuttallornis*] *borealis* SHARPE, Hand-list, iii, 1901, 140.
C[*ontopus*] (*N*[*uttallornis*]) *borealis* COUES, Key N. Am. Birds, 5th ed., i, 1903, 524.
Sayornis borealis WHEATON, Ohio Agric. Rep., 1860, Birds, no. 48.
[*Pyrocephalus*] *borealis* GRAY, Hand-list, i, 1869, 362, no. 5507.
Muscicapa cooperi NUTTALL, Man. Orn. U. S. and Can., i, 1832, 282 (Mount Auburn, near Boston, Massachusetts).—AUDUBON, Orn. Biog.,ii, 1834, 422, pl. 174; Synopsis, 1839, 41; Birds Am., oct. ed., i, 1840, 212, pl. 58.
Tyrannus cooperi BONAPARTE, Geog. and Comp. List, 1838, 24.—NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 298.—SCLATER, Proc. Zool. Soc. Lond., 1856, 297 (Mexico).—GAMBEL, Journ. Ac. Nat. Sci. Phila., i, 1847, 40 (California and Rocky Mts.).—REINHARDT, Ibis, 1861, 7 (Nenortalik, Greenland, 1 spec.).
M[*yiobius*] *cooperi* GRAY, Gen. Birds, i, 1847, 248.
T[*yrannula*] *cooperi* HARTLAUB, Syst. Verz., 1844, 49 (Guatemala).
[*Tyrannula*] *cooperi* BONAPARTE, Consp. Av., i, 1850, 189.
Tyr[*annula*] *cooperi* KAUP, Proc. Zool. Soc. Lond., 1851, 51 (North America; "Chile"; crit.).
Contopus cooperi REINHARDT, Journ. für Orn., 1854, 439.—CABANIS, Journ. für Orn., iii, 1855, 479; ix, 1861, 248 (Costa Rica).
C[*ontopus*] *borealis* CABANIS and HEINE, Mus. Hein., ii, 1859, 72 (excl. syn. *C. borealis* Sclater, = *C. pertinax*).
[*Contopus*] *cooperi* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 146.
[*Myiarchus*] *villicus* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 16 (Mexico; nomen nudum!).
Muscicapa inornata NUTTALL, Man. Orn. U. S. and Can., i, 1832, 282 (Massachusetts); Mem. Am. Ac. Arts and Sci., n. s., i, 1833, 102.

Genus MYIOCHANES Cabanis and Heine.

Contopus (not *Contipus* de Marseul, 1853) CABANIS, Journ. für Orn., iii, Nov., 1855; 479. (Type, *Muscicapa virens* Linnæus.)
Syrichta (not *Syrichtus* Boisduval, 1833) BONAPARTE, Ann. Scf. Nat., sér. 4, Zool., i, 1854, 133. (Type, *Tyrannula ardosiaca* Lafresnaye.)
Myiochanes[a] CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 71. (New name for *Syrichta* Bonaparte, preoccupied.) (See Oberholser, Auk, xvi, 1899, 330, 334.)
Horizopus[b] OBERHOLSER, Auk, xvi, Oct., 1899, 331. (To replace *Contopus* Cabanis, preoccupied.)

Small to medium sized Tyrannidæ (wing about 68–115 mm.) with tail much less than eight-ninths as long as wing or else (*M. brachytarsus*) the tenth primary much longer than fifth, and tarsus less than one-fifth (sometimes less than one-sixth) as long as wing; otherwise resembling *Blacicus* but bill less depressed, with culmen less strongly ridged and lateral outlines straighter, rictal bristles smaller, wing-tip longer (the longest primaries exceeding secondaries by at least combined length of tarsus and half the middle toe, usually by more than tarsus and whole middle toe together) and tarsus relatively shorter, usually barely exceeding length of middle toe with claw.

[a] "Von *μυῖα*, (Fliege) und *χαίνω* (Schnappeu)."
[b] "*ὁρίξω*, limitis; *πούς*, pes."

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Bill shorter than head, broad and moderately depressed at base, its width at frontal antiæ equal to or less than length of gonys (nearly equal to the latter in *M. virens*, *M. brachytarsus*, and *M. pileatus*) and decidedly less to decidedly more than twice its depth at same point, the lateral outlines nearly straight, converging gradually to the attenuate and distinctly (sometimes strongly) uncinate tip of the maxilla; exposed culmen equal to or longer than middle toe with claw (slightly shorter in *M. pileatus*, equal to tarsus in *M. brachytarsus*), distinctly to indistinctly ridged, nearly straight to near tip where abruptly decurved; gonys much longer than mandibular rami, straight or very faintly convex; maxillary tomium straight, distinctly notched subterminally. Nostril at least partly exposed, longitudinally broadly oval,[a] margined above by very narrow (rarely distinct) membrane. Rictal bristles moderately developed (about half as long as bill, or less); feathers of chin with distinct though small recurved bristly tips, those of latero-frontal antiæ with larger arched setæ; malar apex with distinct antrorse bristles. Wing long and pointed, the longest primaries exceeding distal secondaries by at least length of tarsus and half the middle toe, usually by more than combined length of tarsus and whole of middle toe with claw; eighth, eighth and ninth, or ninth primaries longest, the tenth (outermost) longer than fifth, sometimes longer than seventh.. Tail less than four-fifths to more than seven-eighths as long as wing (eighth-ninths as long only in *M. brachytarsus*), more or less deeply emarginate, sometimes slightly divaricate. Tarsus less than one-sixth (rarely nearly one-fifth) as long as wing, its scutellation typically exaspidean or (usually) with a series of longitudinal scutella on upper posterior portion of outer side of tarsus; middle toe usually more or less distinctly shorter than tarsus, its basal phalanx united to outer toe for nearly its entire length, to inner toe for about half its length; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux about as long as inner toe, not conspicuously stouter, its claw shorter than the digit; all the claws strongly curved, sharp, much compressed.

Coloration.—Above plain olive, ochraceous-olive, sooty, or dark slaty, the pileum darker, the wings dusky with paler edgings; beneath slaty or dusky, paler (sometimes slightly yellowish) on abdomen, or light olive or grayish on chest and sides, passing into whitish or yellowish on throat and yellowish white, pale yellowish, or yellow on abdomen, etc.; pileum slightly crested.

Nidification.—Nest shallowly cup-shaped, compact, composed of fine grasses and vegetable fibers, sometimes stuccoed externally with

[a] In a skin of *M. pileatus* (the only one of that species examined) the nostril is decidedly oblique.

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small lichens, usually saddled on a horizontal bough. Eggs cream-colored, spotted around larger end with lilac, dark reddish brown, black, etc.

Range.—Whole of temperate and tropical America, except West Indies and other insular lands. (About seventeen species.)

KEY TO THE SPECIES AND SUBSPECIES OF MYIOCHANES.[a]

a. Tenth (outermost) primary much longer than sixth (nearly, sometimes quite, equal to seventh), the seventh decidedly shorter than eighth; longest primaries exceeding distal secondaries by more than length of tarsus and middle toe together. (*Horizopus.*)

b. Upper parts more decidedly (more greenish) olive; under parts more extensively whitish, with grayish olive pectoral area usually contracted, sometimes interrupted, medially; mandible more decidedly whitish; tail relatively longer. (Eastern North America, breeding from Gulf States to more southern British Provinces, west to middle of Great Plains, occasionally to base of Rocky Mountains; in winter south to Cuba and through eastern Mexico and Central America to northern Peru.) ..... **Myiochanes virens** (p. 518)

bb. Upper parts grayer; under parts less extensively whitish, the grayish pectoral area broader, never interrupted medially; mandible darker, rarely distinctly whitish; tail relatively shorter. (*Myiochanes richardsonii.*)

c. Larger (wing 78.5–93.5, averaging more than 80).

d. Wing and tail longer, bill smaller (adult male averaging wing 87.4, tail 66, exposed culmen 12.9, adult female, 82.8, 62, 12.7); coloration averaging darker, with grayish pectoral area broader. (Western North America, except Cape district of Lower California, breeding from northern Mexico to Yukon Valley, Alaska; in winter south to Peru and Bolivia.) **Myiochanes richardsonii richardsonii** (p. 521)

dd. Wing and tail shorter, bill larger (adult male averaging wing 82.8, tail 58.6, exposed culmen 14.7; adult female, 80.9, 57.4, 14.1); coloration averaging paler, with grayish pectoral area narrower. (Cape district of Lower California.) ..... **Myiochanes richardsonii peninsulæ** (p. 525)

cc. Smaller (wing 75–81.5, averaging 79.3 in male, 79.8 in female). (Resident in mountains of southern Mexico and Guatemala, migrating southward to Panama.) ..... **Myiochanes richardsonii sordidulus** (p. 525)

aa. Tenth (outermost) primary shorter than sixth (sometimes not longer than fifth), the seventh very little shorter than eighth; longest primaries exceeding distal secondaries by less than combined length of tarsus and middle toe (with claw). (*Myiochanes.*)

b. Under parts extensively whitish or very pale yellowish, only the sides and sides of chest grayish or grayish olive.

c. Above deep olive (nearly as in *M. virens*); wing-bands narrower, pale grayish or olive; abdomen pale yellowish. (Southern Mexico to Panama; also greater part of South America?) ..... **Myiochanes brachytarsus** (p. 526)

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[a] The following, originally described as coming from Mexico, is unknown to me:

C[*ontopus*] *plebeius* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 71 (Mexico; coll. Heine Mus.).—*Contopus plebejus* Cabanis, Journ. für Orn., ix, 1861, 248 (Costa Rica); Taczanowski, Orn. du Pérou, ii, 1884, 319; Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1902, 59 (Monterico, Peru).—[*Contopus*] *plebejus* Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 146 (Mexico).—[*Pyrocephalus*] *plebeius* Gray, Hand-list, i, 1869, 362, no. 5512.

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cc. Above brownish gray (nearly smoke gray); wing-bands broader, dull white; abdomen white or yellowish white. (Western Ecuador and northwestern Peru.).....**Myiochanes punensis** (extralimital)[a]

bb. Under parts not extensively, if at all, whitish or pale yellowish, but mostly gray or olive, the center of abdomen only whitish, or whole abdomen yellow.

c. Under parts, including throat, slate-grayish, the abdomen and chin sometimes whitish; pileum dark slaty or blackish.

d. Smaller (wing 73–76.5). (Southern Brazil; Paraguay.)
Myiochanes cinereus (extralimital)[b]

dd. Larger (wing 82.5–99).

e. Slate-gray beneath, paler, but not whitish or pale yellowish, on lower abdomen; upper parts deep slate color. (Colombia to Peru, northern Bolivia, and British Guiana.).....**Myiochanes ardosiacus** (extralimital)[c]

ee. Olivaceous slate-gray beneath, the lower abdomen dull yellowish white or pale dull yellowish; upper parts olivaceous-slate. (Costa Rica and northern Panama.).....**Myiochanes lugubris** (p. 516)

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[a] *Contopus punensis* Lawrence, Ann. Lyc. Nat. Hist. N. Y., ix, 1869, 237 (Puna I., near Guayaquil, w. Ecuador; coll. U. S. Nat. Mus.; = young); Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 352, footnote; (?) Taczanowski, Proc. Zool. Soc. Lond., 1877, 744 (Lechugal, n. w. Peru; crit.); Orn. du Pérou, ii, 1884, 319; Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 558 (Guayaquil); 1885, 122 (w. Ecuador).—*Contopus brachytarsus* (not *Empidonax brachytarsus* Sclater) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 240, part (in synonymy).—*Blacicus punensis* Oberholser, Auk, xvi, Oct.,1899, 336.

[b] *Platyrhynchus cinereus* Spix, Av. Bras., ii, 1825, 11, pl. 13, fig. 2 (Amazon River, coll. Munich Mus.).—*M[yiarchus] cinereus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, i, 248.—[*Tyrannula*] *cinerea* Bonaparte, Consp. Av., i, 1850, 190.—*C[ontopus] cinereus* Cabanis, Journ. für Orn., i, 1855, 479.—*M[yiochanes] cinereus* Cabanis and Heine, Mus. Hein., ii, 1859, 71.—*Myiochanes cinereus* Sclater, Cat. Am. Birds, 1862, 232; Cat. Birds Brit. Mus., xiv, 1888, 245.—*Blacicus cinereus* Oberholser, Auk, xvi, Oct., 1899, 337.—*Tyrannula curtipes* Swainson, Orn. Drawings, pt. v, 1836?, pl. 54 (Brazil).—*Contopus pileatus* Ridgway, Proc. U. S. Nat. Mus., viii, Apr. 20, 1885, 21 (locality unknown; coll. Am. Mus. N. H.).—*Blacicus pileatus* Oberholser, Auk, xvi, Oct., 1899, 337; Ihering, Rev. Mus. Paul., vi, 1904, 326 (Paraguay).—[*Blacicus*] *pileatus* Sharpe, Hand-list, iii, 1901, 143.

[c] *Tyrannula ardosiaca* Lafresnaye, Rev. Zool., vii, Mar., 1844, 80 (Colombia; coll. Lafresnaye; type now in coll. Bost. Soc. N. H.).—*M[yiobius] ardosiacus* Gray, Gen. Birds, i, 1846, 249.—*Sayornis ardosiaca* Sclater, Proc. Zool. Soc. Lond., 1855, 149 (Bogota.)—*C[ontopus] ardesiacus* Cabanis, Journ. für Orn., 1855, 479.—*Contopus ardesiacus* Sclater, Proc. Zool. Soc. Lond., 1859, 44, 144 (Pallatanga, Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 237; Salvin and Godman, Biol. Centr.-Amer., Aves, ii, 1889, 83 (excl. ref. *Sayornis ardosiacus* Cassin!).—*M[yiochanes] ardesiacus* Cabanis and Heine, Mus. Hein., ii, 1859, 71, footnote.—*Myiochanes ardesiacus* Sclater, Cat. Am. Birds, 1862, 232.—[*Pyrocephalus*] *ardesiacus* Gray, Hand-list, i, 1869, 362, no. 5516.—*Horizopus ardosiacus* Oberholser, Auk, xvi, Oct., 1899, 332.

This species, which is the South American representative of *M. lugubris*, was included in the *Biologia Centrali-Americana* (*Aves*, ii, p. 83) through erroneous identification of specimens obtained on the Rio Truando, northern Colombia (not in Panama, however) by Wood. The specimen on which Cassin's "*Sayornis ardosiacus*" (Proc. Ac. Nat. Sci. Phila., 1860, 144) is based, and which is in the collection of the U. S. National Museum, does not, however, represent this species, but is *Sayornis cineracea* (Lafresnaye)!

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cc. Under parts not slate-grayish.

d. Beneath light grayish olive or olive-gray, paler on throat, the abdomen whitish or pale dull yellowish; above deeper grayish olive or olive-grayish. (*Myiochanes pertinax.*)

e. Coloration deeper and more olivaceous, the abdomen more yellowish. (Central and southern Mexico to Guatemala and British Honduras.)

Myiochanes pertinax pertinax (p. 513)

ee. Coloration paler and grayer, the abdomen more whitish. (Northern Mexico and Arizona; accidental in Colorado.)

Myiochanes pertinax pallidiventris (p. 515)

dd. Beneath ochraceous-olive, passing into yellow posteriorly; above deeper ochraceous-olive, more dusky on pileum. (Costa Rica.)

Myiochanes ochraceus (p. 517)

MYIOCHANES PERTINAX PERTINAX (Cabanis and Heine).

SWAINSON'S FLYCATCHER.

Adults (sexes alike) in spring.[a]—Above plain grayish olive, the pileum slightly darker, with feathers more or less distinctly darker medially; wings and tail dusky grayish brown, the outer webs of rectrices passing into light grayish olive or olive-grayish on edges, the primaries very narrowly and indistinctly edged with the same; secondaries edged (except basally) with pale grayish, sometimes approaching dull grayish white; middle wing-coverts margined terminally or tipped with grayish olive or buffy grayish (more or less deep), the greater coverts edged and tipped, or terminally margined, with same; sides of head and neck similar in color to back, etc., but slightly paler, the loral region somewhat intermixed with whitish; chest and sides similar in color to sides of head and neck, but usually somewhat tinged with buffy yellowish, the throat similar but paler, fading into dull whitish on chin; median portion of breast, abdomen, and under tail-coverts pale yellowish buffy, the latter usually with more or less distinct grayish V-shaped basal or central markings; axillars and under wing-coverts buffy, the feathers with more or less of concealed portion pale grayish; maxilla dusky brown to nearly black, mandible yellowish; iris brown; legs and feet dusky brown or blackish.

Adults in summer.—General color more grayish than in spring, the abdomen, etc., usually more whitish.

Adults in autumn.[b]—Similar to the spring plumage, but colors deeper, the upper parts more decidedly olive, the lower parts more strongly suffused with yellowish buff.

Adult male.—Length (skins), 169–196 (189); wing, 102–114 (107.4);

[a] Specimens taken from January to May, inclusive.

[b] September (or after summer molt) to January, inclusive. (Some January birds are indistinguishable from autumnal birds, while others are precisely like those taken in April.)

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tail, 82.5–92 (85.9); exposed culmen, 17–19.5 (18.2); tarsus, 16.5–18 (17.3); middle toe, 9.5–11 (10.3).[a]

Adult female.—Length (skins), 162–189 (174); wing, 95–111 (100.6); tail, 75.5–86 (80); exposed culmen, 17–20.5 (18.3); tarsus, 16–17 (16.5); middle toe, 9.5–10.5 (9.8).[b]

Central and southern Mexico, in States of Vera Cruz (Jalapa; Orizaba; Mirador; Las Vigas; Cofre de Perote; Actopam; Teocelo), Puebla (Chietla), Mexico (Chimalpa; Ixtapalapa; Tetelco), San Luis Potosi (Sierras), Guanajuato, Durango (Ciudad Durango[c]), Morelos (Cuernavaca), Jalisco (Bolaños), Sinaloa (Escuinapa; Mazatlan), Michoacan (Uruapan), Colima (Manzanillo; Colima; plains of Colima), Guerrero (Chilpancingo; Amula; Rincon; El Limon; Omilteme), Oaxaca (Tlalpancingo; La Parada; Cinco Señores), and Chiapas (Comitan; Gineta Mountains) and Territory of Tepic (Tepic), and southward over highlands of Guatemala (Totonicapam; Coban; Hacienda Chancol; Volcan de Agua; Volcan de Fuego) to British Honduras (pine ridge near Cayo).

(?) *Tyrannula musica* SWAINSON, Philos. Mag., n. s., i, 1827, 368 (Mexico; coll. Bullock Mus.).

Contopus musicus SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, sig. 11, Mar., 1889, 81 (Volcan de Agua and Volcan de Fuego, Guatemala; southern pine ridge, near Cayo, British Honduras).

Contopus borealis (not *Tyrannus borealis* Swainson) SCLATER, Proc. Zool. Soc. Lond., 1858, 301 (La Parada, Oaxaca); 1859, 44, 366 (Jalapa, Vera Cruz), 384 Cinco Señores, Oaxaca).—SCLATER and SALVIN, Ibis, 1859, 122 (Guatemala).

C[*ontopus*] *pertinax* CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 72 (Jalapa, Vera Cruz, Mexico; coll. Mus. Hein.; ex *Myiarchus pertinax* Lichtenstein, Nom. Av. Mus. Berol., 1854, 16, =nomen nudum).—RIDGWAY, Man. N. Am. Birds, 1887, 337, part.

Contopus pertinax SCLATER, Cat. Am. Birds, 1862, 231 (Volcan de Fuego, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 235 (Plains of Colima; Ciudad Durango; Jalapa, Vera Cruz; Volcan de Agua, Volcan de Fuego, and Calderas, Guatemala).—SALVIN, Ibis, 1866, 203; Cat. Strickland coll., 1882, 314 (Santa Gertrudis).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—

[a] Fourteen specimens.

[b] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Vera Cruz (8) and Morelos (1)	107.6	86.9	18.4	17.4	10.2
Three adult males from Oaxaca, Guerrero, and Michoacan	110.2	87	17.7	16.8	10.5
Two adult males from Guatemala and Chiapas	107.5	85	18.8	17.3	10
FEMALES.					
Two adult females from Vera Cruz	95.5	76.3	17.5	16.5	10.3
Two adult females from Oaxaca and Sinaloa	105.5	83.3	19.3	17	10
Two adult females from Chiapas	100.8	80.5	18	16	9.3

[c] Intermediate between this form and *M. p. pallidiventris.*

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BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 356, part, pl. 44, fig. 2.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan; Tepic; Plains of Colima); Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Gineta Mts., Chiapas).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 155 (Chietla, Puebla; Actopam and Jalapa, Vera Cruz).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 460, part.—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 31 (Jalapa), 43 (Las Vigas, Vera Cruz, 8,000 ft.; habits; notes).

[*Contopus*] *pertinax* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

[*Contopus pertinax*] var. *pertinax* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351, part.

[*Pyrocephalus*] *pertinax* GRAY, Hand-list, i, 1869, 362, no. 5509.

Horizopus pertinax OBERHOLSER, Auk, xvi, Oct., 1899, 331.

[*Horizopus*] *pertinax* SHARPE, Hand-list, iii, 1901, 141.

MYIOCHANES PERTINAX PALLIDIVENTRIS (Chapman).

COUES'S FLYCATCHER.

Similar to *H. p. pertinax*, but coloration decidedly grayer above and paler beneath, the back, etc., deep smoke gray, the chest lighter smoke gray, the abdomen, etc., dull white, yellowish white, or very pale buffy yellow.

Young.—Essentially like adults but slightly darker and more olivaceous above, the upper tail-coverts tipped (more or less broadly) with light cinnamon or buffy, the middle and greater wing-coverts broadly tipped with the same, forming two distinct bands across wing; under parts suffused with pale buffy.

Adult male.—Length (skins), 174–189 (183); wing, 101–111 (107.2); tail, 83.5–90 (83.9); exposed culmen, 17–20 (18.6); tarsus, 16.5–17 (16.8); middle toe, 10–11 (10.6).[a]

Adult female.—Length (skins), 166–196 (174); wing, 97.5–108.5 (100.5); tail, 76.5–90.5 (80.1); exposed culmen, 16–20 (17.9); tarsus, 15.5–17 (16.4); middle toe, 10–10.5 (10.2).[b]

Northwestern Mexico, in States of Durango (El Salto[c]), Chihuahua (Rio Verde; Yecera; Tutuaca; Casas Grandes; Jesus Maria; Piños Altos; Colonia Garcia) and Sonora (Alamos; San José Mountains) and Territory of Tepic (Santa Teresa[c]), and mountains of southern and central Arizona (Santa Rita Mountains; Huachuca Mountains; White Mountains; Santa Catalina Mountains; Mogollon Mountains; Mount Graham; Fort Whipple; near Camp Apache; Bowie Agency, etc.); accidental in Colorado (Fort Lyon, one specimen).

Contopus pertinax (not of Cabanis and Heine) COUES, Proc. Ac. Nat. Sci. Phila., 1866, 60 (Fort Whipple, Arizona); Check List, 1873, no. 254; 2d ed., 1882, no. 381; Birds Northwest, 1874, 259.—ELLIOT, Illustr. N. Am. Birds, i, 1869, pl. 8.—COOPER, Orn. Calif., 1870, 324, part (Arizona).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 356, part.—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 351 (White Mts., Rock Cañon, near Camp Apache,

[a] Nine specimens.

[b] Eight specimens.

[c] Specimens from these localities incline toward *M. p. pertinax*.

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Bowie Agency, and Mount Graham, Arizona; habits).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 319.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 205 (Santa Rita Mts., Arizona).—SCOTT, Auk, iv, 1887, 19 (Santa Catalina Mts., Arizona, 4,000 ft.).—THORNE, Auk, iv, 1887, 265 (Fort Lyon, Colorado, 1 spec., date not given).—MEARNS, Auk, vii, 1890, 256 (Bakers Butte, Mogollon Mts., Arizona, July, Aug.).—LADD, Auk, viii, 1891, 315 (Yavapai Co., Arizona; descr. nest and eggs).—(?) LANTZ, Trans. Kansas Ac. Sci. for 1896–97 (1899), 222 (Limoncito [Sonora?]).

[*Contopus*] *pertinax* COUES, Key N. Am. Birds, 1872, 173, part.

C[*ontopus*] *pertinax* COUES, Key N. Am. Birds, 2d ed., 1884, 439, part.—RIDGWAY, Man. N. Am. Birds, 1887, 337, part.

Contopus pertinax pallidiventris CHAPMAN, Auk, xiv, July, 1897, 310 (Pima Co., Arizona; coll. Am. Mus. N. H.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 112.—BAILEY (Florence M.) Handb. Birds W. U. S., 1903, 257.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 24 (Huachuca Mts., Arizona, breeding at 7,000 to 10,000 ft.; habits).

C[*ontopus*] *pertinax pallidiventris* COUES, Key N. Am. Birds, 5th ed., i, 1903, 524.

Contopus p[*ertinax*] *pallidiventris* SWARTH, Condor, vii, 1905, 79 (Santa Rita Mts., Arizona, from 6,000 feet upward).

Horizopus pertinax pallidiventris OBERHOLSER, Auk, xvi, Oct., 1899, 331.

[*Horizopus*] *pallidiventris* SHARPE, Hand-list, iii, 1901, 141.

MYIOCHANES LUGUBRIS (Lawrence).

LUGUBRIOUS FLYCATCHER.

Adults (*sexes alike*).—Above plain dark olivaceous-slate, the pileum darker, with feathers darker centrally or mesially, producing more or less distinct wedge-shaped streaks; tail dusky grayish brown with olivaceous slate-gray edgings, the outer web of lateral rectrix paler brownish gray; wings dusky, the middle coverts narrowly and indistinctly margined terminally with slaty, the greater coverts narrowly and indistinctly edged (as well as terminally margined) with the same; primaries and primary-coverts still more narrowly and indistinctly edged; secondaries distinctly edged (except basally) with pale olive-grayish or dull whitish; sides of head and neck, throat, chest, and sides similar in color to upper parts but slightly paler, passing into pale grayish or dull whitish on chin, and into dull yellowish white on center of abdomen and under tail-coverts, the latter more or less extensively olive-grayish medially (the pale yellowish or dull yellowish white sometimes restricted to a mere edging); maxilla brownish black or blackish brown, mandible yellowish; iris brown; legs and feet black.

Adult male.—Length (skins), 146–169 (162); wing, 89–99 (93.5); tail, 71.5–81.5 (75.8); exposed culmen, 15.5–18 (17.2); tarsus, 14–16.5 (15.5); middle toe, 9.5–11 (10.2).[a]

[a] Twenty specimens.

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Adult female.—Length (skins), 151–170 (159); wing, 82.5–93 (87.7); tail, 67–77.5 (72.2); exposed culmen, 15.5–18 (16.5); tarsus, 14.5–16 (15.2); middle toe, 9.5–10.5 (9.9).[a]

High mountains of Costa Rica (Barranca; Birris; Dota; Irazú; La Hondura; Carrillo; Coliblanco) and western Panama (Boquete; Volcan de Chiriqui, 4,000 to 7,500 feet).

Contopus lugubris LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 134 (Barranca, Costa Rica; coll. U. S. Nat. Mus.); ix, 1868, 115 (Barranca, Birris, and Dota, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SALVIN, Ibis, 1874, 310 (crit.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 236 (Chiriqui, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 83 (Barranca, Birris, and Dota, Costa Rica; Chiriqui; Veragua).—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 535 (crit.).

[*Contopus*] *lugubris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.

[*Contopus pertinax*] var. *lugubris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351.

[*Pyrocephalus*] *lugubris* GRAY, Hand-list, i, 1869, 362, no. 5513.

Horizopus lugubris OBERHOLSER, Auk, xvi, Oct., 1891, 332.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 39 (Boquete and Volcan de Chiriqui, Panama, 4,000 to 7,500 ft.).

[*Horizopus*] *lugubris* SHARPE, Hand-list, iii, 1901, 141.

MYIOCHANES OCHRACEUS (Sclater and Salvin).

OCHRACEOUS FLYCATCHER.

Adults (*sexes alike*).—Pileum dusky olive, the feathers indistinctly darker mesially; hindneck, back, scapulars, lesser wing-coverts, rump, and upper tail-coverts plain ochreous olive or ochreous olive-green; tail dusky with light olive edgings, the outer web of lateral rectrix paler; wings dusky (slightly darker than tail), the middle and greater coverts broadly tipped with light buffy olive or tawny-olive, the greater coverts very narrowly and indistinctly edged with light olive; secondaries edged (except basally) with light olive, these edgings becoming broader, paler, and more buffy on inner secondaries (tertials); sides of head and neck plain ochreous-olive, the chest and sides similar but more ochraceous; median portion of breast dull

[a] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Costa Rica	91.8	74	17	15.4	10.1
Ten adult males from northern Panama	95.2	77.5	17.4	15.6	10.4
FEMALES.					
Six adult females from Costa Rica	86.7	71.3	16.4	15.1	9.8
Six adult females from northern Panama	88.7	73.1	16.6	15.3	10.1

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saffron yellow, passing into paler yellow (straw to maize) on abdomen, anal region, and under tail-coverts; chin dull buffy whitish, passing into saffron yellowish on lower throat; axillars and under wing-coverts light olive medially, broadly edged with dull saffron yellowish or tawny-ochraceous; maxilla brownish black, mandible yellowish sometimes with a little dusky at tip; iris dark brown; legs and feet brownish black.

Adult male.—Length (skin), 154; wing, 90; tail, 71.5; exposed culmen, 17.5; tarsus, 16.5; middle toe, 10.[a]

Adult female.—Length (skin), 152–155 (153); wing, 84.5–90 (86.3); tail, 68–72.5 (70); exposed culmen, 17–17.5 (17.1); tarsus, 15.5–17 (16.3); middle toe, 9.5–10.5 (10.1).[b]

High mountains of Costa Rica (Volcan de Irazú; Volcan de Turrialba).

Contopus ochraceus SCLATER and SALVIN, Proc. Zool. Soc. Lond., xxxvii, 1869, 419 (Costa Rica; coll. Salvin and Godman).—SALVIN, Ibis, 1870, 115; 1874, 313.—RIDGWAY, Ibis, 1883, 401 (crit.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 237.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 84, pl. 38, fig. 2.

[*Contopus*] *ochraceus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.

Horizopus ochraceus OBERHOLSER, Auk, xvi, Oct., 1899, 332.

[*Horizopus*] *ochraceus* SHARPE, Hand-list, iii, 1901, 141.

MYIOCHANES VIRENS (Linnæus).

WOOD PEWEE.

Adults (*sexes alike*).—Above plain olive, slightly paler on rump and upper tail-coverts, slightly darker on pileum, where the feathers are more or less distinctly darker centrally; tail deep grayish brown the outer webs of rectrices passing into lighter grayish brown or olive along edges; wings dusky, the middle and greater coverts tipped with pale grayish and with still paler gray terminal margins, the secondaries edged (except basally) with whitish, these edgings broader on inner secondaries ("tertials"); sides of head and neck similar in color to back, etc., but rather lighter, especially on lower portion; a more or less distinct narrow whitish orbital ring (interrupted on upper eyelid); lores intermixed, more or less, with whitish; chin and throat dull white or yellowish white; chest (at least laterally) and sides of breast pale grayish olive, becoming still paler on sides and flanks; rest of under parts yellowish white or very pale primrose yellow,[c] the longer under tail-coverts with a central cuneate or sagittate mark (mostly concealed) of pale olive; axillars and under wing-coverts pale grayish olive margined into yellowish white or very pale yellowish; maxilla blackish

[a] One specimen.

[b] Four specimens.

[c] The yellow tinge usually more pronounced in autumnal specimens, especially young.

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brown or brownish black, mandible whitish or very pale brownish (more pinkish or lilaceous in life), usually with extreme tip brownish; iris deep brown; legs and feet blackish brown or brownish black.

Young.—Essentially like adults, but middle and greater wing-coverts tipped with buff, forming two distinct narrow bands, feathers of rump and upper tail-coverts tipped with light buffy brown (more or less distinctly) and olive on sides of chest more abruptly defined against yellowish white or pale primrose yellow of other under parts. (Frequently the feathers of nearly the whole of upper parts, especially on pileum and posterior scapular, have very narrow terminal margins of pale buffy or buffy brownish.)

Adult male.—Length (skins), 136–155 (143); wing, 81.5–90.5 (82.5); tail, 62–70 (65.3); exposed culmen, 12.5–14.5 (13.3); tarsus, 12.5–14.5 (13.7); middle toe, 8–9 (8.4).[a]

Adult female.—Length (skins), 129–149 (134); wing, 77.5–83.5 (80.5); tail, 57.5–63 (61.4); exposed culmen, 12.5–14.5 (13.1); tarsus, 12.5–14 (13.2); middle toe, 7–9 (8).[b]

Eastern North America, north to Prince Edward Island, Maine (Fort Fairfield), northern Ontario (Parry Sound; Muskoka), and Manitoba, west, regularly, to eastern border of Great Plains, casually to their western border (Springfield, southeastern Colorado); breeding southward to northern and central Florida (Tarpon Springs; Gainesville; Wacissa River), Mississippi, Louisiana (West Baton Rouge Parish), and Texas (south to Fort Brown, at mouth of Rio Grande, west to Tom Green and Bexar counties); migrating southward through eastern Mexico (Alta Mira, Tamaulipas; Sabinas, Coahuila; Orizaba, Vera Cruz; Tapana and Tehuantepec, Oaxaca; Teapa, Tabasco; Yucatan (including Cozumel Island), Guatemala (Vera Paz), Honduras (Ruatan Island; Truxillo), Nicaragua (Rio Escondido), Costa Rica (Barranca;

[a] Twenty-three specimens.

[b] Fifteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Atlantic States	86.4	66.1	13.2	13.6	8.4
Five adult males from Mississippi Valley	84.2	64	13.1	13.8	8.3
One adult male from Louisana (breeding)	86	64.5	14.5	13.5	8.5
Six adult males from Texas (breeding season)	84.1	65.8	13.2	13.4	8.3
Two adult males from Swan Island, Caribbean Sea (including type of *Contopus vicinus* Ridgway)	85.3	64	14.3	13.8	8.5
FEMALES.					
Eight adult females from Atlantic States	81.1	61.2	13.1	13.3	8
Three adult females from Illinois and Missouri	80.5	62.3	13.3	13.2	7.8
Two adult females from Louisiana (breeding)	79	61	12.7	13.2	8.2
Two adult females from Texas	79.5	61	13	12.8	8
One adult female (?) from Yucatan (type of *Contopus albicollis* Lawrence)	80	60	14	13	9

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San José; Cartago; Jiménez), Panama (Calovevora; Bugaba; Volcan de Chiriqui; Saboga Island; Pacheca Island), Colombia (Bogota; Valparaiso, Santa Marta), and Ecuador (Gualaquiza; Puna Island; Sarayacu; Valle de Santiago) to Peru (Huambo); also to Cuba (Cabañas).

[*Muscicapa*] *virens* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 327 (based on *Muscicapa carolinensis cinerea* Brisson, Orn., ii, 368).—GMELIN, Syst. Nat., i, 1788, 936.—LATHAM, Index Orn., ii, 1790, 482.

Muscicapa virens WILSON, Am. Orn., ii, 1810, 81, pl. 13, fig. 5.—BONAPARTE, Synop. Birds U. S., 1828, 68.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 285.—AUDUBON, Orn. Biog., ii, 1834, 93; v, 1839, 425, pl. 115; Synopsis, 1839, 42; Birds Am., oct. ed., i, 1840, 231, pl. 64.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 86 (Cuba).—TRIPPE, Proc. Essex Inst., vi, 1871, 114 (Minnesota).

M[*uscicapa*] *virens* LICHTENSTEIN, Verz. Doubl., 1823, 55, no. 563.

Tyrannula virens BONAPARTE, Geog. and Comp. List, 1838, 24.—WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 74 (Indian Territory; Texas).

T[*yrannula*] *virens* HARTLAUB, Syst. Verz., 1844, 50.

[*Tyrannula*] *virens* BONAPARTE, Consp. Av., i, 1850, 189.

M[*yiobius*] *virens* GRAY, Gen. Birds, i, 1840, 249.

Tyrannus virens NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 316.

Myiarchus virens CABANIS, Wiegmann's Archiv. für Naturg., 1847, i, 248.—SCLATER, Proc. Zool. Soc. Lond., 1855, 150.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 306 (Cuba).

Contopus virens CABANIS, Journ. für Orn., iii, Nov., 1855, 479; ix, 1861, 248 (Costa Rica).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 190; Cat. N. Am. Birds, 1859, no. 139.—SCLATER, Ibis, 1859, 441 (Mexcio, etc.); Proc. Zool. Soc. Lond., 1859, 44 (Mexico; Guatemala); Cat. Am. Birds, 1862, 231 (Vera Paz, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 238, excl. syn. *bogotensis* Bonaparte and Sclater (Cuba; Cozumel I., Yucatan; Ruatan I., Honduras; Guatemala; Calovevora, Volcan de Chiriqui, and Bugaba, Veragua; Panama and Chepo, Isthmus Panama; Santa Marta and Bogota, Colombia; Gualaquiza, Puna I., and Sarayacu, Ecuador).—SCLATER and SALVIN, Ibis, 1859, 122 (Guatemala); Proc. Zool. Soc. Lond., 1864, 360 (Panama); 1870, 837 (coast Honduras).—CABANIS, Journ. für Orn., 1861, 248 (Costa Rica).—DRESSER, Ibis, 1865, 474 (San Antonio, Texas, breeding).—GUNDLACH, Journ. für Orn., 1861, 410 (Cuba); 1872, 424 (Cuba); Repert. Fisico-Nat. Cuba, i, 1865, 239; Orn. Cubana, 1893, 85.—LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 290 (David, Panama); ix, 1868, 115 (Costa Rica).—BUTCHER, Proc. Ac. Nat. Sci. Philad., 1868, 149 (Laredo, Texas, May).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Orizaba, Vera Cruz).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Kansas); Bull. Am. Mus. N. H., xiii, 1900, 143 (Valparaiso, etc., Santa Marta, Colombia, Apr. 19, May 10); Auk, xvii, 1900, 365 (do.).—COUES, Check List, 1873, no. 255; 2d ed., 1882, no. 382; Birds Northwest, 1874, 245.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, 1874, 357, pl. 44, fig. 3.—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Tapana, Oaxaca).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 178 (descr. young).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 137 (Fort Brown, Texas, breeding).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (Cartago, Costa Rica).—SALVIN and GODMAN, Ibis, 1880, 125 (Santa Marta, Colombia); Biol. Centr.-Am., Aves, ii, 1889, 84.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 320.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1882, 22 (Huambo, Peru); Orn. du Pérou,

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ii, 1884, 318.—SALVIN, Cat. Strickland Coll., 1882, 314; Ibis, 1889, 361 (Ruatan I., Honduras; crit.).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (Fort Fairfield, Maine).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 169 (s. e. Texas, breeding).—BICKNELL, Auk, ii, 1885, 254 (notes).—SETON, Auk, iii, 1886, 320 (w. Manitoba, common).—CORY, Auk, iii, 1886, 236; Birds West Ind., 1889, 123; Cat. West Ind. Birds, 1892, 108 (Cuba).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 461.—LLOYD, Auk, iv, 1887, 192 (South Concho R., Tom Green Co., w. Texas, breeding).—CHAPMAN, Auk, v, 1888, 272 (Gainesville, Florida, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 152 (Mississippi Valley range and migr.).—SCOTT, Auk, vi, 1889, 319 (Tarpon Springs, Florida, breeding).—CHERRIE, Auk, vii, 1890, 334 (San José, Costa Rica).—ATTWATER, Auk, ix, 1892, 236 (San Antonio, Texas, breeding).—DWIGHT, Auk, x, 1893, 9 (Prince Edward Id.).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Rio Escondido, Nicaragua).—WAYNE, Auk, xii, 1895, 365 (Wacissa R., n. w. Florida, breeding).—SALVADORI and FESTA, Boll. Mus. Comp. Zool., etc., Torino, xv, no. 362, 1899, 13 (Valle de Santiago, e. Ecuador, Mar.).—FLEMING, Auk, xviii, 1901, 40 (Parry Sound and Muskoka, n. Ontario, common).—BAILEY (Florence M.), Handb. Birds W. U. S., 1903, 258.—ALLISON, Auk, xxi, 1904, 478 (West Baton Rouge Parish, Louisiana, breeding).—STOCKARD, Auk, xxii, 1905, 157 (Mississippi, breeding).

Contopus virens? WARREN (E. R.), Condor, viii, 1906, 20 (Springfield, s. e. Colorado, 1 spec., May 12).

C[*ontopus*] *virens* CABANIS and HEINE, Mus. Hein., ii, 1859, 71.—COUES, Key N. Am. Birds, 2d ed., 1884, 439; 5th ed., i, 1903, 525.—RIDGWAY, Man. N. Am. Birds, 1887, 338.

[*Contopus*] *virens* GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—COUES, Key N. Am. Birds, 1872, 174.—CORY, List Birds West Ind., 1885, 15.

[*Contopus virens*] var. *virens* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 352.

[*Pyrocephalus*] *virens* GRAY, Hand-list, i, 1869, 361, no. 5506.

Horizopus virens OBERHOLSER, Auk, xvi, Oct., 1899, 332.—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 153 (Saboga and Pacheca islands, Bay of Panama, Apr. 6–14).

[*Horizopus*] *virens* SHARPE, Hand-list, iii, 1901, 141.

Muscicapa querula VIEILLOT, Ois. Am. Sept., i, 1807, 68, pl. 39.

Muscicapa rapax WILSON, Am. Orn., ii, 1810, 81, pl. 13, fig. 5.

Tyrannula rapax SWAINSON, Flycatchers, 1838, 67.

Contopus albicollis LAWRENCE, Ann. N. Y. Ac. Sci., iii, no. 5, Jan. 5, 1885, 156 (Yucatan; coll. G. N. Lawrence).

C[*ontopus*] *albicollis* RIDGWAY, Man. N. Am. Birds, 1887, 338.

Contopus vicinus RIDGWAY, Proc. U. S. Nat. Mus., x, sig. 36, Aug. 6, 1888, 576 (Swan I., Caribbean Sea; coll. U. S. Nat. Mus.).

Horizopus vicinus OBERHOLSER, Auk, xvi, Oct., 1899, 333 (crit.).

[*Horizopus*] *vicinus* SHARPE, Hand-list, iii, 1901, 142.

MYIOCHANES RICHARDSONII RICHARDSONII (Swainson).

WESTERN WOOD PEWEE

Very similar to *M. virens*, but color of upper grayer (less olivaceous) and under parts more extensively olive-grayish, this color usually also deeper than in *M. virens* and less sharply contrasted with whitish

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of throat and abdomen; mandible usually much darker than in *M. virens*, very rarely whitish. Young with darker color of under parts more extensive, darker and browner in hue, the under parts more or less suffused with pale brownish buffy.[a]

Adult male.—Length (skins), 126–154 (143); wing, 84.5–93.5 (87.4); tail, 59.5–69.5 (66); exposed culmen, 12.5–14 (12.9); tarsus, 12.5–14 (13.4); middle toe, 7.5–9 (8.2).[b]

Adult female.—Length (skins), 131–155 (138); wing, 79–92 (82.8); tail, 57.5–71.5 (62); exposed culmen, 11.5–14 (12.7); tarsus, 12.5–14 (13); middle toe, 7–8.5 (7.9).[c]

Western North America; north to Alaska and Northwest Territory (Skagway; Haines; Windy Island; Lake Tagish; Little Salmon

[a] Although convinced, from intimate personal acquaintance of both in life, that this form and *M. virens* are specifically distinct I am at present unable to give a better diagnosis. The differences are more easily seen than described; but nevertheless it is often difficult to identify specimens as one or the other without doubt. It is not at all unlikely that this difficulty may be in part owing to the inclusion under the name *richardsonii* of what may be in reality two or three distinct forms; otherwise it is hard to account for the unusual variations of coloration noticeable in a large series. While appreciating and verifying the characters ascribed by Doctor Bishop to his supposed northwestern form (*Contopus richardsonii saturatus*), as compared with a large number of other specimens, I am, unfortunately, unable to verify any geographic correlation in the matter, these darker birds occurring almost everywhere outside the limits of the supposed subspecies. At the same time there occur in Arizona and adjacent territory many specimens which are decidedly paler and more uniform in color than are found elsewhere, but here also these pale birds inhabit the same areas (possibly, however, not exactly the same localities) as birds of the ordinary style. This pale form, if formally recognized, would bear the name *Myiochanes richardsonii veliei* (Coues), but I do not at present, at least, venture to recognize such a subspecies. The group is an exceedingly difficult one, which will require not only a very large amount of material, but also much time and patience for its satisfactory elucidation.

[b] Thirty-six specimens.

[c] Thirty-one specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Colorado and Montana	89.2	65.9	12.9	13.8	8.3
Ten adult males from Arizona (9) and Chihuahua (1)	86.8	63.9	13.7	13	8.1
Six adult males from San Diego Co., California	88	64.3	13.3	13.1	8.1
Nine adult males from central California to Oregon	87.3	63.8	13.3	13.4	8.2
Six adult males from Alaska and Northwest Territory	86.2	63.3	12.8	13.9	8.2
FEMALES.					
Five adult females from Utah, Colorado, and Montana	85.3	65.1	12.4	13.2	8.1
Nine adult females from Arizona (6), New Mexico (1), and Chihuahua (2)	82.3	61.8	12.7	13.1	7.7
Four adult females from San Diego Co., California	82	60.4	12.8	13	8
Ten adult females from central California to Washington	81.9	60.9	12.9	12.9	8
One adult female from Alaska	81	61	.....	13	8.5

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River, near Circle, and Miles Canyon, Yukon Valley); east to the lower Saskatchewan (Cumberland House), western Manitoba (Big Plain), western North Dakota (Rolette and Nelson counties, breeding), and rest of western portion of Great Plains to western Texas; breeding southward to northern Mexico, in States of Tamaulipas (Matamoras), Nuevo Leon, Coahuila (Sierra Encarnacion), Chihuahua, Sonora, and Lower California (Piñon and Rancho San Antonio, on west side of San Pedro Martir Mountains; mountains east of Ensenada), probably to Durango or farther; in winter south over greater part of Mexico and Central America to Ecuador (Esmeraldas; Zamora; Chimbo; Placér; Pedregál; Mapoto; Machay), Peru (La Merced; La Gloria), and northern Bolivia (Naipiri).

Tyrannula richardsonii SWAINSON, Fauna, Bor.-Am., ii, 1831, 146, pl. 46, lower fig. (Cumberland House, Saskatchewan, Canada).

Muscicapa richardsonii AUDUBON, Orn. Biog., v, 1839, 299, pl. 434.

Contopus richardsonii BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 189; Cat. N. Am. Birds, 1859, no. 138; Rep. U. S. and Mex. Bound. Surv., ii, pt. 2, 1859, 9 (El Paso, Texas; Monterey, Nuevo Leon).—BLAKISTON, Ibis, 1863, 57 (lower Saskatchewan).—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 61 (Fort Whipple, etc., Arizona).—COOPER, Orn. Calif., 1870, 325.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 462.—SETON, Auk, iii, 1886, 320 (Big Plain, w. Manitoba, common).—COOKE, Bird Migr. Miss. Val., 1888, 153 (w. Manitoba; w. Nebraska; w. Kansas; Concho Co., w. Texas, migr.).—CHERRIE, Auk, vii, 1890, 334 (San José, Costa Rica).—GOSS, Hist. Birds Kansas, 1891, 366 (w. Kansas, breeding).—ATTWATER, Auk, ix, 1892, 236 (San Antonio, Texas, breeding).—THORNE, Auk, xii, 1895, 215 (Fort Keogh, Montana, breeding).—DAWSON, Auk. xiv, 1897, 176 (Okanogan Co., Washington).—GRINNELL (J.), Pub. no. 1, Pasadena Ac. Sci., 1897, 10 (San Nicolas I.), 15 (San Clemente I., 1 spec., June 3).—NELSON, North Am. Fauna, no. 14, 1899, 49 (Tres Marias Islands).—RATHBUN (S. F.), Auk, xix, 1902, 136 (Seattle, Washington, breeding.

Contopus richardsoni SCLATER, Cat. Am. Birds, 1862, 331 (Vera Paz, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 239 (Presidio, near Mazatlan; Orizaba, Vera Cruz; Coban, Retalhuleu, and Dueñas, Guatemala; Irazú and San José, Costa Rica; Bugaba, Panama; Esmeraldas and Zamora, Ecuador; Naipiri, Bolivia).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama); 1879, 615 (Naipiri, Bolivia).—DRESSER, Ibis, 1865, 474 (Matamoras, Tamaulipas, breeding; San Antonio, Texas, 1 spec., May).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 115 (San José, Frailes, and Barranca, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SALVIN, Ibis, 1870, 199 (Calovevora, Bugaba, and Volcan de Chiriqui, Panama.)—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 44, fig. 4.—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 558 (Chimbo, w. Ecuador, Sept.; crit.); 1884, 297 (Pedregal and Placer, 2,800 ft., w. Ecuador).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 68 (Chimbo, Mapoto, and Machay, Ecuador), 92 (do.).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains to 11,000 ft.).—SCOTT, Auk, iv, 1887, 19 (Santa Catalina Mts., s. Arizona, breeding).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 85, part.—RAY, Auk, xx, 1903, 184 (Lake Valley, California; habits; descr. nest and eggs).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 25 (Huachuca Mts., Arizona, breeding).

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[*Contopus*] *richardsoni* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

C[*ontopus*] *richardsonii* RIDGWAY, Man. N. Am. Birds, 1887, 338.

C[*ontopus*] *richardsoni* COUES, Key N. Am. Birds, 5th ed., i, 1903, 526.

Contopus richardsoni richardsoni GRINNELL (J.), Check List Calif. Birds, June 25, 1902, 43.

Contopus virens, var. *richardsonii* ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Colorado; Utah).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Tapana and Tehuantepec City, Oaxaca).

[*Contopus virens.*] Var. *richardsonii* COUES, Key N. Am. Birds, 1872, 174.

Contopus virens . . . var. *richardsonii* COUES, Check List, 1873, no. 255*a*.—HENSHAW, Rep. Orn. Spec. Wheeler's Survey, 1873 (1874), 66, 86, 126 (Denver and Fort Garland, Colorado; Apache and Gila R., Arizona).

Contopus (*virens* var.?) *richardsonii* COUES, Birds Northwest, 1874, 247.—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 195 (Fort Klamath, e. Oregon).

Contopus virens . . . var. *richardsoni* HENSHAW, Zool. Exp. W. 100th Merid., 1875, 353 (Utah, Colorado, New Mexico, and Arizona; habits).

Contopus virens, var. *richardsoni* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 360.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 94 (Twin Lakes, Colorado).

Contopus virens richardsoni COUES, Check List, 2d ed., 1882, no. 383.—MINOT, Bull. Nutt. Orn. Club, v, 1880, 231 (Boulder, Colorado; notes).—WILLIAMS, Bull. Nutt. Orn. Club, vii, 1882, 62 (Belt Mts., Montana).—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 206 (Santa Rita Mts., Arizona).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).

Contopus virens richardsoni? BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1896, 367 (La Merced and La Gloria, centr. Peru, Feb.).

C[*ontopus*] *v*[*irens*] *richardsoni* COUES, Key N. Am. Birds, 2d ed., 1884, 440.

Horizopus richardsonii OBERHOLSER, Auk, xvi, Oct., 1899, 333.

Horizopus richardsoni BANGS, Auk, xviii, 1901, 363 (Divala, Panama).

[*Horizopus*] *richardsoni* SHARPE, Hand-list, iii, 1901, 142.

[*Pyrocephalus*] *richardsoni* GRAY, Hand-list, i, 1869, 362, no. 5510.

Horizopus richardsonii richardsonii MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 356 (Mount Juan Lisiarraga, Sinaloa, Apr., May; crit.).

Tyrannula phoebe (not *Muscicapa phoebe* Latham) BONAPARTE, Geog. and Comp. List, 1838, 24.

Muscicapa phoebe (not of Latham) AUDUBON, Synopsis, 1839, 42; Birds Am., oct. ed., i, 1840, 219, pl. 61 (Labrador record probably wrong).

Tyrannus phoebe NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 319.

Contopus bogotensis (not *Tyrannula bogotensis* Bonaparte?) SCLATER, Proc. Zool. Soc. Lond., 1858, 459 (Ecuador); Cat. Am. Birds, 1862, 231 (Bogota, Colombia; Zamora and Esmeraldas, Ecuador).

(?) [*Pyrocephalus*] *bogotensis* GRAY, Hand-list, i, 1869, 362, no. 5511.

Contopus veliei COUES, Proc. Ac. Nat. Sci. Phila., 1866, 61, in text (Fort Whipple, Arizona; coll. U. S. Nat. Mus.).

Tyrannula virens (not *Muscicapa virens* Linnæus) HEERMANN, Journ. Ac. Nat. Sci. Phila., ii, 1852, 262 (California).

Contopus richardsonii saturatus BISHOP, Auk, xvii, Apr., 1900, 116 (Haines, Alaska; coll. L. B. Bishop).

Contopus richardsoni saturatus BISHOP, North Am. Fauna, no. 19, 1900, 79 (Skagway, Yukon Valley, etc.).

[*Horizopus*] *saturatus* SHARPE, Hand-list, iii, 1901, 142.

Horizopus richardsoni sordidulus (not *Contopus sordidulus* Sclater) BANGS, Proc. New Engl. Zool. Club, iii, Jan. 30, 1902, 39 (Boquete, Panama, 4,000 ft.).

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MYIOCHANES RICHARDSONII PENINSULÆ (Brewster).

LARGE-BILLED WOOD PEWEE.

Similar to *M. r. richardsonii* but paler, both above and below; whitish edgings to secondaries broader; wing and tail (especially the latter) averaging decidedly shorter, and bill much longer and broader.

Adult male.—Length (skins), 131–139 (134); wing, 78.5–85.5 (82.8); tail, 55.5–61.5 (58.6); exposed culmen, 13.5–15 (14.7); tarsus, 12–13.5 (12.8); middle toe, 8–8.5 (8.1).[a]

Adult female.—Length (skins), 130–142 (134); wing, 79–84 (80.9); tail, 54.5–60 (57.4); exposed culmen, 13.5–14.5 (14.1); tarsus, 12–13 (12.7); middle toe, 8–8.5 (8.2).[b]

Southern extremity of Lower California (Sierra de la Laguna; San José del Rancho; Triunfo; Pearce's Ranch); southward in winter to southeastern Mexico (Tapana, Oaxaca).[c]

Contopus richardsonii peninsulæ Brewster, Descr. Seven Sup. New North Am. Birds, Feb. 17, 1891, 144; Auk, viii, Apr., 1891, 144 (Sierra de la Laguna, Lower California; coll. W. Brewster); Bull. Mus. Comp. Zool., xli, 1902, 120 (Cape San Lucas district, not resident; habits).—American Ornithologists' Union Committee, Auk, ix, 1892, 106; Check List, 2d ed., 1895, no. 462*a*.—Ridgway, Man. N. Am. Birds, 2d ed., 1896, 598.

C[ontopus] r[ichardsoni] peninsulæ Coues, Key N. Am. Birds, 5th ed., i, 1903, 526.

Horizopus richardsonii peninsulæ Oberholser, Auk, xvi, 1899, 333 (crit.).

[*Horizopus*] *peninsulæ* Sharpe, Hand-list, iii, 1901, 142.

[*Contopus virens*] var. *peninsula* Dubois, Synop. Av., fasc. iv, 1900, 249.

MYIOCHANES RICHARDSONII SORDIDULUS (Sclater).

MEXICAN WOOD PEWEE.

Similar to *M. r. richardsonii*, but smaller; coloration averaging darker and browner, with pileum darker.

Adult male.—Length (skins), 132–143 (137); wing, 75–81.5 (79.3); tail, 58.5–62 (59.8); exposed culmen, 13–13.5 (13.2); tarsus, 13–14 (13.3); middle toe, 7.5–8.5 (8.1).[d]

Adult female.—Length (skins), 130–138 (134); wing, 77.5–81.5 (79.8); tail, 55.5–60.5 (58.7); exposed culmen, 11.5–12.5 (12); tarsus, 12–12.5 (12.3); middle toe, 8–8.5 (8.3).[e]

Breeding in southern Mexico, in States of Vera Cruz (Orizaba; Buena Vista), Oaxaca (Cuicatlan; Oaxaca City; Tapana; Cerro San Felipe; Santa Efigenia), Guerrero (Chilpancingo), Tabasco (Teapa),

[a] Ten specimens.

[b] Nine specimens.

[c] No. 58854, coll. U. S. Nat. Mus.; adult male; Tapana, Oaxaca, Apr. 18, 1869; Prof. F. Sumichrast. This specimen is minutely similar to examples from the type locality.

[d] Six specimens.

[e] Three specimens.

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and Chiapas (Ocozucuantla; San Vicente; Tuxtla Gutierrez; mountains near Tonalá), and on highlands of Guatemala; south in winter to Costa Rica (Coliblanco de Sarapiqué; Cedral de Asserí; San José; Carrillo) and Panama (Divala; David).[a]

Contopus sordidulus SCLATER, Proc. Zool. Soc. Lond., 1859, 43 (Southern Mexico; Guatemala; type locality and location of type[b] not specified); Ibis, 1859, 441 (Orizaba, Vera Cruz; Guatemala).—SCLATER and SALVIN, Ibis, 1859, 122 (Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Alpine region of Vera Cruz).

MYIOCHANES BRACHYTARSUS (Sclater).

SHORT-LEGGED WOOD PEWEE.

Adults (*sexes alike*).—Above plain olive, more or less darker (sometimes sooty blackish) on pileum, lighter and more brownish on rump and upper tail-coverts; tail dusky grayish brown, the outer webs of rectrices passing into grayish olive on edges; wings dusky, the middle and greater coverts margined terminally with pale gray or grayish white (more or less buffy in immature birds), the secondaries edged (except basally) with the same; sides of head and neck similar in color to back, etc., the lores at least partly grayish white; chin, throat, median line of chest, median portion of breast, abdomen, and under tail-coverts varying from pale yellow (nearly primrose) to white,[c] the sides of chest and breast and sides plain light grayish olive or gray; maxilla blackish brown or brownish black; iris brown; legs and feet dusky brown or blackish.

Young.—Somewhat like adults, but general color of upper parts duller, less olivaceous, the feathers of pileum, hindneck, back, etc., terminally margined or narrowly tipped with buffy whitish, those of rump, together with upper tail-coverts and lesser wing-coverts, more broadly tipped with pale cinnamon-buff, middle and greater coverts broadly tipped with buff, cinnamon-buff, or pale cinnamon (forming two conspicuous bands), and secondaries broadly edged (except basally) with the same.

Adult male.—Length (skins), 125–145 (135); wing, 67.5–76.5 (72.9); tail, 56–65.5 (61.1); exposed culmen, 13–15.5 (14.1); tarsus, 13–14.5 (13.7); middle toe, 7–8.5 (7.7).[d]

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[a] The specimens from Boquete cited under this name by Mr. Bangs I find to be referable to *H. r. richardsonii*.

Some Costa Rican specimens which I have tentatively referred to this form are very puzzling, and I believe that they are really something different. They have a very dark coloration, the pileum being nearly black. But for their very different wing-formula, which is quite that of *M. virens* and *M. richardsonii*, these specimens resemble very closely darker colored examples of *M. brachytarsus*.

[b] In the bibliography of Dr. Sclater's publications (Bull. U. S. Nat. Mus., no. 49), p. 85, the type is said to be in the Sclater collection in the British Museum, and the type from "Mexico"; in Cat. Am. Birds, 1862, 231, the type locality is said to be Orizaba.

[c] The yellow color most pronounced in specimens in fresh plumage.

[d] Eighteen specimens.

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Adult female.—Length (skins), 125–136 (130); wing, 65–72.5 (68.9); tail, 55–61 (58.2); exposed culmen, 12.5–14.5 (13.2); tarsus, 13–14 (13.4); middle toe, 7–8 (7.7).[a]

Southeastern Mexico, in States of Vera Cruz (Cordova; Santecomapam), Oaxaca (Santo Domingo), Tabasco (Teapa), Campeche (Campeche), Yucatan (Merida; Chichen-Itza; Cozumel Island) and Chiapas (Palenque; Ocuilapa; Huehuetan), and southward through Guatemala (Choctum; Cajabon; Chisec; Retalhuleu; Gualan; Escuintla), British Honduras (Orange Walk), Honduras (Segovia River), Nicaragua (Los Sábalos; Rio Escondido; Rio San Juan; San Carlos), and Costa Rica (San José; Rio Frio; Bebedero; Cariblanco de Sarapiqué) to Panama (Loma del Leon; Panama; Paraiso; Calovevora; Bugaba). Apparently[b] also the greater part of tropical South America, from Colombia (Santa Marta; Minca; Bonda; Cacagualito; Bogota), Venezuela (Caracas; Carupano; San Esteban; San Antonio; Guanaguana; Altagracia) and Trinidad to Peru (Chota; Junin), Argentina (Salta), Paraguay, Brazil (Mexiana Island, lower Amazon), and Guiana.

[a] Thirteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Cozumel Island	73.4	61.9	14.3	13.4	7.5
Six adult males from Yucatan	73.8	61.8	13.9	13.6	7.7
Two adult males from Chiapas and Guatemala	75	61.5	14	14.3	8
Four adult males from Nicaragua (2) and Costa Rica (2)	74	57.4	14.5	13.6	7.9
Two adult males from Panama	70.8	59.3	13.8	14	8
Three adult males from Colombia (2) and Venezuela (1)	75	64.2	14.5	13.7	8.2
Four adult males from Trinidad	77	66.6	14	13.3	8.5
FEMALES.					
Two adult females from Cozumel Island	69	59.8	13.3	13.8	7.8
One adult female from Yucatan	72.5	59.5	13	13.5	8
Two adult females from Oaxaca and Chiapas	71.2	58	12.8	13.3	7.3
Five adult females from s. Honduras (1), Nicaragua (1), and Costa Rica (3)	67.7	57.9	13.7	13.5	7.8
Two adult females from Panama	67	57.8	13	13	7.5
One adult female from Colombia	70	59	12.5	13	8
Three adult females from Trinidad	72.7	61.8	13.8	13.5	8.2

Specimens from Colombia, Venezuela, and Trinidad seem to be considerably grayer above than those from Central America, and I doubt whether the South American birds should be considered the same subspecifically; but a very much larger series of specimens than that which I have been able to examine will be necessary to determine the question of whether the South American and Central American birds are really different as well as whether there is more than one form in Central America.

[b] As stated above (in footnote) there is doubt as to the identity of South American with Central American birds.

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a. MEXICAN AND CENTRAL AMERICAN REFERENCES.

Empidonax brachytarsus SCLATER, Ibis, i, Oct., 1859, 441 (Cordova, Vera Cruz, Mexico; coll. P. L. Sclater).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 327 (Lion Hill, Panama R. R.).

Contopus brachytarsus SALVIN, Ibis, 1861, 354 (Escuintla, Guatemala); Proc Zool. Soc? Lond., 1870, 199 (Calovevora, Panama); Ibis, 1889, 361 (Cozumel I., Yucatan; crit.).—SCLATER, Cat. Am. Birds, 1862, 231 (Santecomapam and Cordova, Vera Cruz); Cat. Birds Brit. Mus., xiv, 1888, 240, part (Santecomapam and Cordova, Vera Cruz; Yucatan; Cozumel I.; Choctum, Cajabon, Chisec, Retalhuleu, and Escuintla, Guatemala; Calovevora, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Isthmus Panama).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 89 (Costa Rica).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351 (footnote).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 86, part (Teapa, Tabasco; Orange Walk, British Honduras; and other Central American localities).—CHERRIE, Auk, ix, 1892, 251 (San José, Costa Rica).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (San Carlos and Rio Escondido, Nicaragua; crit.).—CHAPMAN, Bull. Am. Mus. N. H., viii, 1896, 283 (Chichen-Itza, Yucatan; notes).

C[*ontopus*] *brachytarsus* RIDGWAY, Man. N. Am. Birds, 1887, 339.

[*Contopus*] *brachytarsus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52 (part).

[*Contopus brachytarsus*] var. *brachytarsus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351 (Panama).

[*Pyrocephalus*] *brachytarsus* GRAY, Hand-list. i, 1869, 362, no. 5514.

Blacicus brachytarsus OBERHOLSER, Auk, xvi, Oct., 1899, 336 (Vera Cruz to Yucatan; crit.).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 22 (Loma del Leon, Panama).

[*Blacicus*] *brachytarsus* SHARPE, Hand-list, iii, 1901, 143.

Contopus schottii LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, 1869, 202 (Merida, Yucatan; coll. U. S. Nat. Mus.).—RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 571 (Cozumel I., Yucatan).

[*Contopus brachytarsus*] var. *schotti* BAIRD, BREWER, and RIDGWAY, Hist. N. Am., Birds, ii, 1874, 351.

Contopus (*brachytarsus* var. ?), var. *schotti* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351, footnote.

(?) *Contopus depressirostris* RIDGWAY, Proc. U. S. Nat. Mus., vi, Apr. 11, 1884, 403, footnote (Los Sábalos, Nicaragua; coll. U. S. Nat. Mus.).

Blacicus andinus (not *Empidonax andinus* Taczanowski ?) OBERHOLSER, Auk, Oct., 1899, 336, part (Pacific side of southern Mexico; Central America; crit.).

[*Blacicus*] *andinus* SHARPE, Hand-list, iii, 1901, 143, part.

b. SOUTH AMERICAN REFERENCES.

Contopus brachytarsus (not *Empidonax brachytarsus* Sclater?) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 578 (Mexiana I., lower Amazon; crit.); 1868, 168, 628 (San Esteban, Venezuela); 1870, 781 (Venezuela).—PELZELN, Orn. Bras., iv. Abth., 1870, 426.—(?) WHITE, Proc. Zool. Soc. Lond., 1882, 608 (Salta, Argentina).—SALVIN, Cat. Strickland Coll., 1882, 314 (Mexiana I.).—RIDGWAY, Proc. U. S. Nat. Mus., vii, 1884, 173 (Trinidad).—SCLATER and HUDSON, Argentine Orn., i, 1888, 156.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 240, part (Caracas and San Esteban, Venezuela; Guiana; Mexiana, lower Amazons; Chota, Peru?; Brazil?).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 86, part (Venezuela; Guiana; Amazon Valley; Brazil?;

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Argentine Rep.?).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 54 (Carúpano, Venezuela); xiii, 1900, 143 (Minca, etc., Santa Marta, Colombia); xxi, 1905, 282 (Bonda, Santa Marta; descr. nest and eggs).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 43 (Trinidad; habits; notes).—PHELPS, Auk, xiv, 1897, 365 (San Antonio, Venezuela).—HOLMBERG, Secundo Cen. Argentina, 1898, 540.—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia).

[*Contopus*] *brachytarsus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

Horizopus brachytarsus IHERING, Rev. Mus. Paul., vi, 1904, 326 (Paraguay).

(?)*T*[*yrannula*] *bogotensis* BONAPARTE, Consp. Av., i, 1850, 190 (Colombia; cites "Bp. Pr. Zool. Soc. 1837, p. — sp.").

Contopus bogotensis (not *Tyrannula bogotensis* Bonaparte?) TAYLOR, Ibis, 1864, 87 (Trinidad).

Myiobius virens (not *Muscicapa virens* Linnæus) LÉOTAUD, Ois. Trinidad, 1866, 226.

(?)*Empidonax andinus* TACZANOWSKI, Proc. Zool. Soc. Lond., 1874 (pub. Apr., 1875), 539 (Junin, centr. Peru; coll. Warsaw Mus.); 1879, 235 (Chota, n. Peru, 8,000 ft. alt.).

Blacicus andinus OBERHOLSER, Auk, xvi, Oct., 1899, 336, part (South America, east to Trinidad, south to Peru; crit.).

[*Blacicus*] *andinus* SHARPE, Hand-list, iii, 1901, 143, part.

Horizopus brachytarsus depressirostris? (not *Contopus depressirostris* Ridgway?) BERLEPSCH and HARTERT, Novit. Zool., ix, Apr., 1902, 50 (Altagracia, Venezuela; crit.).

Genus BLACICUS Cabanis.

Blacicus CABANIS, Journ. für Orn., iii, Nov., 1855, 480. (Type, *Muscipeta caribaea* D'Orbigny.)

Small Tyrannidæ (wing, about 65–80 mm.) with bill broad and much depressed, its lateral outlines convex and tip contracted, very strong rictal bristles, tail at least eight-ninths as long as wing, tarsus more than one-fifth as long as wing, tenth (outermost) primary not longer than fifth and very plain dull coloration.

Bill more than half as long as head, broad and excessively depressed basally, its width at frontal antiæ nearly if not quite equal to length of gonys and more than twice its depth at same point, its lateral outlines decidedly convex beyond middle portion, thence obviously concave and rapidly convergent to the attenuated tip of maxilla; exposed culmen equal to or longer than middle toe with claw (except in *B. brunneicapillus*), very distinctly ridged, straight to near tip, where abruptly decurved, the tip of maxilla distinctly uncinate; gonys much longer than mandibular rami, slightly convex, at least terminally; maxillary tomium straight or slightly convex in part, distinctly notched subterminally. Nostril at least partly exposed, rather large, longitudinally oval, margined above by narrow membrane. Rictal bristles very strongly developed, reaching much beyond middle (sometimes nearly to tip) of bill; feathers of chin with distinct, recurved bristly points, those of latero-frontal antiæ with conspicuous arched bristly points, reaching more than halfway to tip of maxilla. Wing rather long and pointed, the longest primaries exceeding

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secondaries by more than length of tarsus; eighth primary longest, the seventh and ninth very little shorter, the tenth (outermost) equal to or shorter than fifth. Tail eight-ninths as long as wing to very nearly as long (always longer than distance from bend of wing to end of distal secondaries), emarginate (*B. caribæus*, *B. bahamensis*), even or very slightly double-rounded (*B. pallidus*, *B. blancoi*), slightly rounded (*B. brunneicapillus*) or decidedly rounded (*B. latirostris*), rather distinctly divaricate, the rectrices widening terminally. Tarsus longer than exposed culmen, one-fifth to much more than one-fifth as long as wing, its scutellation typically (almost ultra) exaspidean, with divisions of acrotarsium distinct; middle toe, without claw, more than half as long as tarsus (very slightly more in *B. caribæus*), its basal phalanx united to outer toe for much the greater part of its length, to inner toe for about half its length; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe more or less distinctly shorter; hallux about as long as inner toe, not conspicuously stouter, its claw shorter than its digit; all the claws strongly curved, sharp, much compressed.

Coloration.—Above plain olive, becoming darker (sometimes nearly black) on pileum, the wings dusky with paler edgings; beneath paler olive, passing into dull grayish white or pale gray on throat and dull pale yellowish on abdomen, sometimes strongly suffused with fulvous, in one species wholly cinnamon-rufous.

Nidification.—Nest (of *B. caribæus*) saddled on horizontal branch, composed of rootlets, horsehair, etc., lined with feathers, plant-down, etc., and ornamented exteriorly with moss or lichens.[a] Eggs (of *B. caribæus*) pale buff or cream color, spotted with brown, etc.

Range.—West Indies (Bahamas, Cuba, Haiti, Jamaica, Porto Rico, Dominica, Guadeloupe, Grenada, Martinique, and Santa Lucia). (Nine species.)

If this group is to be recognized as generically distinct from *Myiochanes* it must be restricted to the West Indian species, for in no other way can it be characterized; even thus restricted its satisfactory definition is very difficult, and I have strong doubts as to whether its distinctness can really be maintained. Possibly a better arrangement would be to place the *B. bahamensis*, *B. caribæus*, *B. hispaniolensis*, and *B. pallidus* in *Myiochanes* and make a new genus (the type of *Blacicus* being *B. caribæus*, and therefore if this procedure be adopted *Blacicus* becomes a synonym of *Myiochanes*) for *B. blancoi*, *B. brunneicapillus*, and *B. latirostris*, the precise relationships of *B. flaviventris* being as yet uncertain.

[a] Gundlach, Orn. Cubana, 1895, 87.

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KEY TO THE SPECIES OF BLACICUS.

a. Wings without distinct bands. (Adults.)

b. Posterior under parts whitish or pale dull yellowish; tail more or less distinctly emarginate, the lateral rectrices decidedly longer than middle pair.

c. Above more grayish olive; a whitish orbital ring (interrupted on upper eyelid); bill and feet relatively larger (exposed culmen and tarsus each averaging more than 15 mm.).

d. Upper parts grayer, under parts more grayish and whitish; wing, tail, and bill averaging shorter, tarsus longer (wing 71.9, tail 62.6, exposed culmen 15.4, tarsus 15.8 in male, 68.3, 60.5, 15.2, and 15.5, respectively, in female). (Bahama Islands.).....**Blacicus bahamensis** (p. 532)

dd. Upper parts more olivaceous, under parts more olivaceous and yellowish; wing, tail, and bill averaging longer, tarsus shorter (wing 74.1, tail 67.3, exposed culmen 15.9, tarsus 15.4 in male, 69.6, 65.3, 15.6, and 15.2, respectively, in female). (Island of Cuba, including Isle of Pines.)

Blacicus caribæus (p. 533)

cc. Above more brownish olive; no whitish orbital ring; bill and feet relatively smaller (exposed culmen averaging less than 15 mm., tarsus averaging not more than 15 mm.).

d. Above clearer (less brownish) and (usually) slightly darker olive; larger (male averaging wing 73.5, tail 66.5, exposed culmen 14.7, tarsus 5; female wing 68.8, tail 62.9, exposed culmen 14.3, tarsus 14.5). (Island of Haiti.)

Blacicus hispaniolensis (p. 535)

dd. Above more brownish olive; smaller (male averaging wing 69.4, tail 64.3, exposed culmen 13.3, tarsus 14.3; female averaging wing 67.3, tail 64.1, exposed culmen 12.4, tarsus 14.3). (Island of Jamaica.)

Blacicus pallidus (p. 536)

bb. Posterior under parts pale fulvous, cinnamon-buffy or cinnamon-rufous; tail even, double-rounded, or rounded, the lateral rectrices shorter than middle pair.

c. Chin and at least upper throat pale grayish or dull whitish; chest shaded with olive; tail more slightly double-rounded (sometimes nearly even), the rectrices without paler tips.

d. Above less brownish olivaceous, beneath with fulvous deeper and more extended, invading lower throat; upper throat and chin dull pale grayish tinged with fulvous. (Island of Porto Rico.).....**Blacicus blancoi** (p. 537)

dd. Above more brownish olivaceous, beneath with fulvous paler, mostly restricted to abdomen, etc.; chin and whole throat dull olive-whitish. (Islands of Dominica, Guadeloupe, and Martinique.)

Blacicus brunneicapillus (p. 538)

cc. Chin and throat deep cinnamon or buffy cinnamon-rufous, like rest of under parts, the chest not shaded with olive; tail more strongly rounded, the rectrices tipped with paler. (Island of Santa Lucia, Lesser Antilles.)

Blacicus latirostris (p. 539)

aa. Wing with two distinct buffy or cinnamomeous bands (across tips of middle and greater coverts). (Young.[a])

b. Upper tail-coverts and feathers of rump (usually those of pileum also) with paler tips or terminal margins; abdomen yellowish white, buffy, or pale cinnamon.

c. Abdomen yellowish white or very pale primrose yellowish; wing-bands paler (buffy) and narrower.

Blacicus bahamensis, young (p. 532); **Blacicus caribæus,** young (p. 534)

[a] The young of *B. latirostris* not seen by me.

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cc. Abdomen buffy or pale cinnamon; wing-bands darker (pale tawny or cinnamomeous) and broader.

d. Abdomen buffy.

e. Above darker and browner, the pileum uniform dusky olive. **Blacicus pallidus**, young (p. 537)

ee. Above lighter and less brownish, the pileum squamated with pale buffy. **Blacicus blancoi**, young (p. 538)

dd. Abdomen pale cinnamon **Blacicus brunneicapillus**, young (p. 539)

bb. Upper tailcoverts and feathers of rump uniform dusky olive (clove brown) like rest of upper parts; abdomen primrose yellow. (Island of Grenada, Lesser Antilles.) **Blacicus flaviventris**, young [a] (p. 540)

BLACICUS BAHAMENSIS (Bryant).

BAHAMA WOOD PEWEE.

Adults (*sexes alike*).—Above plain olivaceous-gray or grayish olive, the pileum and hindneck slightly darker, the former with feathers very slightly darker mesially or centrally; tail deep brownish gray or grayish brown, the outer webs of rectrices passing into lighter brownish gray on edges, the outer web of lateral rectrix more or less paler, sometimes whitish along edge; wings dusky with grayish olive or olive-grayish edgings, the middle and greater coverts tipped or terminally margined with pale grayish (sometimes approaching dull grayish white on tips of greater coverts), the secondaries edged (except basally) with pale grayish or grayish white; lores and orbital ring (the latter interrupted on upper eyelid) dull white, or grayish white, the former more or less intermixed with dusky; rest of sides of head and neck similar in color to back, etc., but slightly paler, gradually fading into dull yellowish white on chin and throat; under parts dull yellowish white, more strongly tinged with yellowish on abdomen, the sides of chest, sides, and flanks pale olive-grayish, the median portion of chest tinged with the same; axillars and under wing-coverts pale brownish buff or dull buffy whitish; maxilla dusky brown or brownish black, mandible pale, sometimes more or less dusky terminally; iris brown; legs and feet dusky brown.

Young.—Much like adults, but color of upper parts more sooty, the feathers narrowly tipped with pale brownish or pale brownish buffy; middle and greater wing-coverts tipped with brownish buffy (forming two distinct narrow bands), the secondaries edged with same; chin and throat pale grayish, deepening into darker brownish gray on chest and sides of breast, the latter indistinctly spotted or clouded with brownish; rest of under parts very pale brownish buffy.

Adult male.—Length (skins), 132–147 (140); wing, 69–74 (71.9); tail, 60–64.5 (62.6); exposed culmen, 15–16 (15.4); tarsus, 15–16.5 (15.8); middle toe, 8.5–9 (8.8).[b]

[a] The adult of *B. flaviventris* is unknown.

[b] Seven specimens.

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Adult female.—Length (skins), 136–139 (137); wing, 68–68.5 (68.3); tail, 59–61.5 (60.5); exposed culmen, 14.5–16 (15.2); tarsus, 15–16 (15.5); middle toe, 8–9 (8.5).[a]

Bahama Islands (New Providence, Andros, Abaco, Little Abaco, Eleuthera, and Great Bahama islands).

Empidonax bahamensis BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 109 (Bahamas; coll. H. Bryant).—ALBRECHT, Journ. für Orn., 1861, 52.

Contopus (*caribæus* var.?) *bahamensis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 352, foot-note.

Contopus bahamensis CORY, Birds Bahama I., 1880, 101, Auk, iii, 1886, 235 (descr.; synonymy); viii, 1891, 294 (New Providence I.), 350 (Great Bahama I.; Abaco I.), 351 (Eleuthera I.); Birds West Ind., 1889, 122.—RIDGWAY, Auk, viii, 1891, 334 (Abaco), 335 (New Providence), 336 (Eleuthera).

C[*ontopus*] *bahamensis* RIDGWAY, Man. N. Am. Birds, 1887, 339.

[*Contopus*] *bahamensis* CORY, List Birds West Ind., 1885, 15.

Blacicus bahamensis SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 242 (Nassau, New Providence, Bahamas).—NORTHRUP, Auk, viii, 1891, 72 (Andros I.; habits).—CORY, Cat. West Ind. Birds, 1892, 14, 109, 127 (Great Bahama; Abaco, Eleuthera, New Providence, and Andros islands).—OBERHOLSER, Auk, xvi, 1899, 335 (crit.).—BONHOTE, Ibis, 1899, 513 (New Providence I., habits); 1903, 292 (Little Abaco I.; habits).—BANGS, Auk, xvii, 1900, 288 (New Providence I.).—ALLEN (G. M.), Auk, xxii, 1905, 127 (New Providence I.; habits).—RILEY, Auk, xxii, 1905, 356 (New Providence and Abaco islands).

[*Blacicus*] *bahamensis* SHARPE, Hand-list, iii, 1901, 142.

[*Pyrocephalus*] *bahamensis* GRAY, Hand-list, i, 1869, 361, no. 5502.

BLACICUS CARIBÆUS (D'Orbigny).

CUBAN WOOD PEWEE.

Similar in coloration to *B. bahamensis*, but under parts darker, upper parts slightly more olivaceous, and size much greater.

Adults (*sexes alike*).—Above plain deep grayish olive, the pileum darker with still darker but indistinct wedge-shaped mesial streaks, the rump and upper tail-coverts slightly paler; tail deep grayish brown, the outer webs of rectrices passing into grayish olive on edges; wings dusky, the middle and greater coverts tipped or terminally margined (broadly) with dull brownish gray or light grayish olive, the secondaries edged (except basally) with the same, approaching dull white on inner secondaries; a conspicuous orbital ring (interrupted on upper eyelid) and lores white, the latter more or less intermixed with dusky; rest of sides of head and sides of neck similar in color to back, etc., but the latter slightly paler, the auricular region somewhat darker; chin and throat dull pale yellowish, tinged with grayish olive; chest and sides of breast pale buffy olive (the former paler and more buffy or yellowish medially), passing into light yellowish buff, or between maize yellow and naples yellow, on abdomen

[a] Three specimens.

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and margins of under tail-coverts, the latter light grayish brown or olive centrally; axillars and under wing-coverts dull light buff or cream-buff; maxilla dusky brown or brownish black, mandible pale brownish (in dried skins), sometimes darker terminally or laterally; iris brown; legs and feet black or brownish black.

Young.—Similar to adults, but general color of upper parts more sooty, the feathers narrowly margined terminally with dull whitish or pale dull buffy, these terminal margins broader and more brownish or buffy on rump and upper tail-coverts; middle and greater wing-coverts abruptly tipped with pale buff, forming two distinct narrow bands; chin, throat, abdomen, etc., dull white, the chest and sides more grayish than in adults.

Adult male.—Length (skins), 134–153 (144); wing, 69.5–77 (74.1); tail, 63.5–70.5 (67.3); exposed culmen, 15–17 (15.9); tarsus, 15–16 (15.4); middle toe, 8.5–9.5 (8.8).[a]

Adult female.—Length (skins), 134–146 (141); wing, 67.5–72 (69.6); tail, 61–68.5 (65.3); exposed culmen, 14.5–16 (15.6); tarsus, 14.5–16 (15.2); middle toe, 8–9.5 (8.7).[b]

Island of Cuba, Greater Antilles, including Isle of Pines. (El Guama, San Diego de los Baños, Trinidad, Pinar del Rio, and Cabañas, western Cuba; Santiago de Cuba, Guama, El Cobre, and Remedios, eastern Cuba; San Juan and Santa Fé, Isle of Pines.)

Muscipeta caribaea D'Orbigny, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 77 (Cuba).—Lembeye, Aves de la Isla de Cuba, 1850, 129.

Muscicapa caribaea Gundlach, Journ. Bost. Soc. N. H., vi, 1852, 316 (descr. eggs).

Blacicus caribaeus Cabanis, Journ. für Orn., 1855, 480.—Brewer, Proc. Bost. Soc. N. H., vii, 1860, 307.—Gundlach, Journ. für Orn., 1861, 328; 1872, 426 (habits); Repert. Fisico-Nat. Cuba, i, 1865, 240.—Cory, Auk, iii, 1886, 241; Birds West Ind., 1889, 128; Cat. West Ind. Birds, 14, 109, 128 (Cuba; Isle of Pines).—Sclater, Cat. Birds Brit. Mus., xiv, 1888, 242 (San Cristobal and Remedios, Cuba).—Chapman, Bull. Am. Mus. N. H., iv, 1892, 303 (near Trinidad, s. Cuba; descr. nest).—Oberholser, Auk, xvi, 1899, 334 (crit.).—Bangs and Zappey, Am. Nat., xxxix, 1905, 207 (Isle of Pines).

[a] Fifteen specimens from Cuba.

[b] Eleven specimens from Cuba.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from western Cuba	74.1	67.5	15.9	15.4	8.8
Five adult males from eastern Cuba	74.2	66.8	15.9	15.4	8.8
Four adult males from Isle of Pines	71.2	64.1	15.2	14.9	8.3
FEMALES.					
Nine adult females from western Cuba	70	66	15.6	15.2	8.4
Two adult females from eastern Cuba	68	62	16	15.5	8.8
Two adult females from Isle of Pines	68.8	64.5	15.3	15	8.3

I am unable to detect any difference in coloration between Isle of Pines specimens and those from Cuba proper.

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Blacicus caribacus GUNDLACH, Orn. Cub., 1893, 87.

[*Blacicus*] *caribæus* GUNDLACH, Journ. für Orn., 1861, 328.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 142.

Contopus caribæus BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351, footnote.

C[*ontopus*] *caribæus* RIDGWAY, Man. N. Am. Birds, 1887, 339.

[*Pyrocephalus*] *caribæus* GRAY, Hand-list, i, 1869, 363, no. 5538, part.

[*Contopus caribæus*] var. *caribæus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351.

BLACICUS HISPANIOLENSIS (Bryant).

HAITIAN WOOD PEWEE.

Somewhat like *B. caribæus*, but much darker above, and whitish orbital ring obsolete; sometimes much more buffy below; slightly smaller.

Adults (*sexes alike*).—Pileum and hindneck varying from olive to dark sooty brown (nearly clove brown); back, scapulars, and lesser wing-coverts deep olive, passing into slightly lighter olive on rump and upper tail-coverts; tail dark grayish brown, the outer webs of rectrices passing into grayish brown or olive on edges; wings dusky, the middle and greater coverts passing terminally into light grayish brown or olive, the secondaries edged (except basally) with pale olive or dull whitish; sides of head and neck similar in color to back, etc., the lores more or less mixed with dull whitish; chin and throat varying from dull grayish white to dull grayish buffy white; rest of under parts varying from pale yellowish buff to deep brownish buff, the chest and sides strongly shaded with grayish olive, the under tail-coverts pale grayish olive with buffy margins; axillars and under wing-coverts brownish buffy; maxilla dusky brown or brownish black, mandible pale brownish (in dried skins); iris brown; legs and feet dusky brown or brownish black.

Young.—Similar to adults, but general color of upper parts more brownish olive, the feathers margined terminally with pale brownish buffy, these terminal margins broader and browner on rump and upper tail-coverts; lesser wing-coverts margined terminally with brownish buff, the middle and greater coverts sharply tipped with the same (forming two distinct narrow bands), the secondaries margined (except basally) with the same; under parts essentially as in adults but chest and sides more or less mottled, clouded, or obsoletely spotted with light olive-brownish.

Adult male.—Length (skins), 126–146 (137); wing, 70–76 (73.5); tail, 64.5–70 (66.5); exposed culmen, 14–15 (14.7); tarsus, 14.5–15.5 (15); middle toe, 8–9 (8.6).[a]

[a] Ten specimens.

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Adult female.—Length (skins), 129–140 (135); wing, 66.5–71 (68.8); tail, 58.5–66.5 (62.9); exposed culmen, 13.5–15 (14.3); tarsus, 13–15 (14.5); middle toe, 8–8.5 (8.3).[a]

Island of Haiti, Greater Antilles (Port au Prince, Haiti; Magua, La Lagunita, Aguacate, Maiwan, Catare, Samana, La Vega, Honduras, and Puerto Plata, Santo Domingo).

Tyrannula carriboea (var. *hispaniolensis*) BRYANT, Proc. Bost. Soc. N. H., xi, Dec. 5, 1866 (pub. 1867), 91 (Santo Domingo; coll. U. S. Nat. Mus.).

Contopus caribæus, var. *hispaniolensis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 351, footnote.

Contopus hispaniolensis CORY, Birds Haiti and San Dom., 1885, 81, pl. (22), fig. 4; Auk, iii, 1886, 236; Birds West Ind., 1889, 123.

Blacicus hispaniolensis SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 242 (Samaná and La Vega, Santo Domingo).—CORY, Cat. West Ind. Birds, 1892, 14, 109, 131 (Haiti and Santo Domingo).—CHERRIE, Contr. Orn. San Dom., 1896, 17 (habits).—OBERHOLSER, Auk, xvi, 1899, 335.

[*Blacicus*] *hispaniolensis* SHARPE, Hand-list, iii, 1901, 142.

[*Pyrocephalus*] *caribæus* (not *Muscipeta caribæa* D'Orbigny) GRAY, Hand-list, i, 1869, 363, no. 5538, part.

Contopus frazari CORY, Bull. Nutt. Orn. Club, viii, Apr., 1883, 94 (Santo Domingo; coll. C. B. Cory).—REICHENOW and SCHALOW, Journ. für Orn., 1886, 85 (reprint of orig. descr.).

Sayornis dominicensis CORY, Bull. Nutt. Orn. Club, viii, Apr., 1883, 94 (Santo Domingo; coll. C. B. Cory).

BLACICUS PALLIDUS (Gosse).

JAMAICAN WOOD PEWEE.

Similar to *B. hispaniolensis*, but decidedly smaller, bill shorter and relatively broader, and coloration of upper parts lighter.

Adults (*sexes alike*).— Above plain brownish olive, becoming darker or more sooty on pileum, lighter and browner on rump and upper tail-coverts; tail deep grayish brown, the outer webs of rectrices passing into lighter brown (broccoli) on edges; wings dusky, the middle and greater coverts passing terminally into light grayish brown (more cinnamomeous in younger birds), the secondaries edged (except basally) with pale olive or buffy olive, the edgings broader and paler on inner secondaries; sides of head and neck similar in color to back, etc., but somewhat lighter, the lores with more or less admixture of dull olive-whitish, and indications of a very narrow dull whitish orbital ring (interrupted on upper eyelid); chin and throat pale dull olive-buffy or dull olive-whitish tinged with buff; rest of under parts dull brownish buffy (more or less deep), the chest and sides strongly shaded with buffy olive; axillars and under wing-coverts dull brownish buffy; maxilla dusky brown, mandible pale (yellowish or fleshy in life?); iris brown; legs and feet dusky brown, the upper portion of tarsus paler or clearer brown.

[a] Six specimens.

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Young.—General color of upper parts browner or more sooty olive, the posterior scapulars and feathers of lower back very narrowly and indistinctly margined with paler, those of the rump and upper tail-coverts rather broadly tipped with dull buffy brownish; middle and greater wing-coverts sharply tipped with buffy cinnamon, forming two distinct bands; under parts more brownish buffy than in adults.

Adult male.—Length (skins), 130–141 (134); wing, 65.5–72.5 (69.4); tail, 60.5–67 (64.3); exposed culmen, 12.5–14 (13.3); tarsus, 14–14.5 (14.3); middle toe, 8–8.5 (8.3).[a]

Adult female.—Length (skins), 124–137 (131); wing, 65.5–69.5 (67.3); tail, 57–65.5 (64.1); exposed culmen, 12–13 (12.4); tarsus, 14–14.5 (14.3); middle toe, 7.5–8.5 (8).[a]

Island of Jamaica, Greater Antilles (Spanish Town; Cuna Cuna Pass; Priestmans River; Kingston; Moneague; St. Georges, Portland; Troy).

Myiobius pallidus Gosse, Birds Jamaica, 1847, 166 (Jamaica); Illustr. Birds Jam., 1849, pl. 40.

[*Tyrannula*] *pallida* Bonaparte, Consp. Av., i, 1850, 191.

Blacicus pallidus Sclater, Proc. Zool. Soc. Lond., 1861, 77; Cat. Birds Brit. Mus., xiv, 1888, 243 (Moneague and near Spanish Town, Jamaica).—Albrecht, Journ. für Orn., 1862, 199.—Cory, Cat. West Ind. Birds, 1892, 14, 109, 130.—Oberholser, Auk, xvi, 1899, 335.

[*Blacicus*] *pallidus* Sharpe, Hand-list, iii, 1901, 142.

Contopus pallidus Sclater, Cat. Am. Birds, 1862, 231.—March, Proc. Ac. Nat. Sci. Philad., 1863, 290.—Salvin, Cat. Strickland Coll., 1882, 315.—Cory, Auk, iii, 1886, 234; Birds West Ind., 1889, 121.—Scott, Auk, x, 1893, 178.

[*Contopus*] *pallidus* Sclater and Salvin, Nom. Av. Neotr., 1873, 52.—Cory, List Birds West Ind., 1885, 15.

C[*ontopus*] *pallidus* Newton (A. and E.), Handb. Jamaica, 1881, 107.

Contopus caribæus, var. *pallidus* Baird, Brewer, and Ridgeway, Hist. N. Am. Birds, ii, 1874, 351, footnote.

[*Pyrocephalus*] *pallidus* Gray, Hand-list, i, 1869, 363, no. 5537.

Rhyncocyclus cervineiventris Salvadori, Atti. Soc. Ital. Milan, vii, 1864, 153 ("Brazil;" see Sclater and Salvin, Proc. Zool. Soc. Lond., 1868, 175).

BLACICUS BLANCOI Cabanis.

PORTO RICO WOOD PEWEE.

Adults (sexes alike).—Pileum varying from dark sooty olive to sooty blackish; rest of upper parts plain deep olive; tail dusky grayish brown, the outer webs of rectrices passing into olive on edges; wings dusky, the middle and greater coverts narrowly margined terminally with paler, the secondaries edged with pale fulvous or brownish buffy; sides of head and neck similar in color to back, etc., fading gradually into pale dull grayish or buffy grayish on chin and throat, the lower portion of the latter more strongly buffy; rest of under parts deep brownish buff or clay color, paler (more purely buff) on

[a] Six specimens.

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under tail-coverts, the chest and sides strongly shaded with olive; axillars and under wing-coverts cinnamon-buff; maxilla brownish black or blackish brown, mandible pale with tip usually dusky; iris brown; legs and feet dusky brown or blackish.

Young.—Above duller olive than in adults, the feathers tipped or terminally margined with pale dull buffy; middle and greater wing-coverts abruptly tipped with cinnamon-buff, forming two distinct narrow bands; under parts paler than in adults, the chest and sides more or less clouded or mottled with pale grayish olive.

Adult male.—Length (skins), 126–143 (131); wing, 65–70.5 (68.2); tail, 59–63.5 (61.2); exposed culmen, 13.5–14.5 (13.8); tarsus, 15.5–16 (15.7); middle toe, 8.5–9 (8.5).[a]

Adult female.—Length (skins), 123–132 (129); wing, 63.5–66 (64.7); tail, 58.5–63 (60.5); exposed culmen, 12.5–14 (13.4); tarsus, 14.5–15.5 (15.1); middle toe, 7.5–8.5 (8.1).[b]

Island of Porto Rico, Greater Antilles. (Arecibo; Mayaguez; Utuado.)

Blacicus blancoi GUNDLACH, Journ. für Orn., 1874, 311 (Porto Rico; nomen nudum; 1878, 159, 171 (crit.); Anal. Soc. Esp. Hist. Nat., vii, 1878, 195.—CABANIS, Journ. für Orn., 1875, 224 (first described!).—CORY, Auk, iii, 1886, 242; Birds West Ind., 1889, 129; Cat. West Ind. Birds, 1892, 14, 109, 132.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 243.—OBERHOLSER, Auk, xvi, 1899, 335 (crit.).—BOWDISH, Auk, xx, 1903, 11 (habits; descr. nest and eggs), 195 (food).

[*Blacicus*] *blancoi* CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 142.

BLACICUS BRUNNEICAPILLUS Lawrence.

DOMINICAN WOOD PEWEE.

Very similar to *B. blancoi*, but general color of upper parts slightly browner (less olivaceous) and under parts paler.

Adults (*sexes alike*).—Pileum varying from dark sooty brown to dark sooty slate or nearly sooty black; rest of upper parts dark brownish olive to olive-brown, becoming paler and browner on rump and upper tail-coverts; tail deep grayish brown, the outer webs of rectrices passing into lighter grayish brown or olive on edges; wings dusky, the tips (broadly) of middle and greater coverts grayish brown or olive, the secondaries edged with pale brownish buffy; sides of head and neck similar in color to back, gradually fading below into dull buffy white or buffy grayish white on chin and throat; rest of under parts brownish buffy, the chest and sides strongly tinged with pale grayish olive; axillars and under wing-coverts buffy; maxilla dusky brown, mandible pale, usually with tip dusky; iris brown; legs and feet dusky brown or brownish black.

[a] Ten specimens.

[b] Six specimens.

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Young.—General color of upper parts more sooty brownish than in adults, the feathers of pileum very narrowly margined terminally with buffy, those of rump and upper tail-coverts more broadly but indistinctly tipped with pale buffy brownish; middle and greater wing-coverts abruptly tipped with cinnamon or cinnamon-buff (forming two distinct narrow bands), the secondaries edged with the same.

Adult male.—Length (skins), 130–143 (135); wing, 64.5–69.5 (67.5); tail, 59–64.5 (62); exposed culmen, 13–14.5 (13.8); tarsus, 15.5–16.5 (15.9); middle toe, 8.5–9 (8.7).[a]

Adult female.—Length (skins), 125–138 (134); wing, 62–67.5 (65.4); tail, 59.5–63.5 (61.2); exposed culmen, 13.5–14 (13.7); tarsus, 15.5; middle toe, 8–9 (8.5).[b]

Islands of Dominica, Guadeloupe, and Martinique, Lesser Antilles.

Blacicus brunneicapillus LAWRENCE, Ann. N. Y. Acad. Sci., i, 1879 (pub. July, 1878), 161 (Dominica, Lesser Antilles; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., i, 1878, 59, 487; viii, 1885, 622 (Dominica; Guadeloupe).—CORY, Auk, iii, 1886, 242; viii, 1891, 49 (Guadeloupe); Birds West Ind., 1889, 129; Cat. West Ind. Birds, 1892, 14, 109 (Dominica; Guadeloupe).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 243 (Dominica); Proc. Zool. Soc. Lond., 1889, 326, 327 (Dominica).—VERRILL, Trans. Conn. Ac. Arts and Sci., viii, 1892, 336 (Dominica; habits; descr. nest and eggs).—OBERHOLSER, Auk, xvi, 1899, 334 (crit.).

[*Blacicus*] *brunneicapillus* CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 142.

Blacicus martinicensis CORY, Auk., iv, Apr., 1887, 96 (Martinique, Lesser Antilles; coll. C. B. Cory); v, 1888, 158; Birds West Ind., 1889, 294; Cat. West Ind. Birds, 1892, 14, 109, 133, 145.—OBERHOLSER, Auk, xvi, 1899, 334.

[*Blacicus*] *martinicensis* SHARPE, Hand-list, iii, 1901, 143.

BLACICUS LATIROSTRIS (Verreaux).

SANTA LUCIA WOOD PEWEE.

Adults (*sexes alike*).—Pileum dark sooty brown; rest of upper parts plain olive-brown, the rump and upper tail-coverts (especially the

[a] Ten specimens.

[b] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Dominica	67.8	62.8	13.8	16.1	8.7
Three adult males from Guadeloupe	66.7	61.8	13.7	15.5	8.7
Two adult males from Martinique	68	60.2	14.2	16	8.7
FEMALES.					
Four adult females from Dominica	66.1	61.6	13.6	15.6	8.6
One adult female from Guadeloupe	62	59.5	13.5	15.5	8.5
One adult female from Martinique	66	61	14	15.5	8

I am not able to verify, from the series examined, the alleged differences between Martinique specimens and those from Dominica and Guadeloupe.

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latter) tinged with cinnamon; tail dark grayish brown (nearly sepia), the rectrices more or less distinctly tipped with pale grayish brown or buffy, their outer webs passing into lighter grayish brown on edges (very indistinctly); wings dusky, the secondaries edged (except basally) with pale cinnamon-buff or pale grayish buff; sides of head and neck similar in color to back, etc., but tinged with fulvous, especially below; under parts plain cinnamon-tawny or dull tawny-ochraceous, including axillars and under wing-coverts; maxilla horn brown, mandible wholly whitish (yellowish in life?); iris brown; legs and feet dusky brown, paler brown on upper portion of tarsus.

Adult male.—Length (skins), 128–136 (131); wing, 68–71.5 (69.2); tail, 62–67.5 (65); exposed culmen, 14–15 (14.5); tarsus, 15–16 (15.3); middle toe, 7.5–8 (7.8).[a]

Adult female.—Length (skins), 129–134 (131); wing, 66–71 (68.5); tail, 63–66.5 (64.8); exposed culmen, 14–14.5 (14.3); tarsus, 15–16 (15.5); middle toe, 8.[b]

Island of Santa Lucia, Lesser Antilles.

Myiobius latirostris VERREAUX, Bull. Nouv. Archiv. Mus. Paris, ii, 1866, 22, pl. 3, fig. 2 (Santa Lucia, Lesser Antilles); Ibis, 1868, 102.—SCLATER, Proc. Zool. Soc. Lond., 1871, 271 (crit.).

Myiarchus latirostris SEMPER, Proc. Zool. Soc. Lond., 1872, 650 (habits).

[*Contopus*] *latirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—CORY, List Birds West Ind., 1885, 15.

Contopus latirostris ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166.—CORY, Auk, iii, 1886, 235; Ibis, 1886, 475; Birds West Ind., 1889, 122.—SCLATER, Proc. Zool. Soc. Lond., 1889, 395.

Blacicus latirostris SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 244.—CORY, Cat. West Ind. Birds, 1892, 14, 109, 133.—OBERHOLSER, Auk, xvi, 1899, 334 (crit.).

[*Blacicus*] *latirostris* SHARPE, Hand-list, iii, 1901, 143.

BLACICUS FLAVIVENTRIS Lawrence.

GRENADA WOOD PEWEE.

Young.[c]—Pileum dark sooty olive; rest of upper parts plain dark olive; wings and tail dusky, the middle and greater wing-coverts abruptly tipped with cinnamon, forming two distinct bands, of which the posterior is much the wider; secondaries edged (except basally) with pale cinnamon; sides of head and neck similar in color to back, etc., fading gradually below into pale olive on chin, throat, chest, and sides, the rest of under parts pale buffy yellow (nearly primrose); under wing-coverts mixed grayish brown and buffy cinnamon; maxilla dusky brown, mandible wholly brownish white (yellowish in

[a] Three specimens.

[b] Two specimens.

[c] The adult of this very rare species is unknown.

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life?); legs and feet dusky horn color (in dried skin); wing, 63; tail, 62; exposed culmen, 11.5; tarsus (legs broken); middle toe, 9.[a]

Island of Grenada, Lesser Antilles (St. Andrews).

Blacicus flaviventris LAWRENCE, Proc. U. S. Nat. Mus., ix, sig. 39, Feb. 11, 1887, 617 (St. Andrews, Grenada, West Indies; coll. U. S. Nat. Mus.).—CORY, Auk, v, 1888, 158; Birds West Ind., 1889, 293; Cat. West Ind. Birds, 1892, 14, 134, 145.—OBERHOLSER, Auk, xvi, 1899, 335 (crit.).—CLARK, Proc. Bost. Soc. N. H., xxxii, 1905, 279.

[*Blacicus*] *flaviventris* SHARPE, Hand-list, iii, 1901, 143.

Blacicus flavirostris (error) CORY, Cat. West Ind. Birds, 1892, 109.

Genus MYIOPHOBUS Reichenbach.

Myiophobus REICHENBACH, Av. Syst. Nat., 1850, pl. 67. (Type, *Muscicapa nævia* Boddaert = *M. fasciatus* Müller.)

Small Tyrannidæ (wing about 57–70 mm.) with basal phalanx of middle toe united to outer toe for less than its entire length, acrotarsial scutella very distinct, bill much shorter than head, with distinctly convex lateral outlines, outermost (tenth) primary equal to second or third, tail much shorter than distance from bend of wing to end of secondaries, no yellow on rump, but crown with a concealed spot of yellow or orange-rufous and wing with two fulvous bands.

Bill much shorter than head, depressed and broad at base, its width at nostrils equal to about half the length of exposed culmen and rather less than twice its depth at same point, its lateral outlines distinctly convex beyond the middle, then more rapidly converging to the tip; exposed culmen equal to or longer than middle toe without claw, distinctly (almost sharply) ridged, straight for most of its length, rather abruptly decurved terminally, the tip of maxilla minutely uncinate; gonys much longer than mandibular rami, faintly convex; maxillary tomium straight, distinctly but minutely notched subterminally. Nostril partly exposed, longitudinally oval or elliptical, margined above by narrow membrane. Rictal bristles well developed, at least two-thirds as long as bill, the feathers of chin and frontal antiæ with very distinct curved bristly points. Wing moderate, rather pointed, the longest primaries exceeding secondaries by about length of exposed culmen; eighth or seventh and eighth primaries longest, ninth equal to or longer than fifth, tenth (outermost) equal to second or third. Tail nine-tenths as long as wing (*M. nævius*) to only a little more than four-fifths as long (*M. flavicans*), slightly rounded or double-rounded. Tarsus about one-fourth to two-sevenths as long as wing, rather stout, its scutellation typically exaspidean, with acrotarsial divisions very distinct; middle toe, without claw, more than

[a] One specimen (the type).

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half as long as tarsus, its basal phalanx united for less than its entire length to outer toe, for barely half its length to inner toe; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe slightly but decidedly shorter; hallux about as long as inner toe, but decidedly stouter, its claws shorter than the digit; all the claws rather large, strongly curved, sharp.

Coloration.—Above plain brown, olive, or olive-green, the crown with a concealed spot of yellow or orange-rufous, the wing with two fulvous bands; beneath buffy whitish, streaked on chest, etc., with brown, or yellowish shaded on chest and sides with olive.

Nidification.—Nest (of *M. nævius*) placed in a bush or low tree, open above, compact, composed of various soft materials, lined with feathers, etc. Eggs cream color or creamy white, spotted with reddish brown, mostly in circle around larger end.

Range.—Panama to Peru, Argentina and Guiana. (About eleven species, including subspecies, all but one of them extralimital to the present work.)

KEY TO SUBSPECIES OF MYIOPHOBUS FASCIATUS.

a. Pileum dull cinnamon-brownish with concealed patch of yellow or rufous; back, rump, and upper tail-coverts cinnamon-brown or raw umber; wing-bands buff. (Adults.)

b. Under parts strongly yellowish, with chest less distinctly streaked; smaller (adult male averaging wing 55.9, tail 48.5). (Panama, including San Miguel and Saboga islands.) ..... **Myiophobus fasciatus furfurosus** (p. 543)

bb. Under parts less strongly yellowish, with chest more distinctly streaked; brown of upper parts darker; larger (average measurements exceeding those given above).

c. Smaller (adult male averaging wing 58.5, tail 52.8, exposed culmen 10.4, tarsus 16.2, middle toe 8.8; adult female, wing 55.7, tail 49.7, exposed culmen 10, tarsus 16, middle toe 8). (Colombia to Trinidad, Guiana, and southern Brazil.) ..... **Myiophobus fasciatus fasciatus** (extralimital)[a]

[a] *Muscicapa fasciata* MÜLLER, Syst. Nat. Suppl., 1776, 172 (Cayenne; based on Pl. Enl., 574, fig. 3; see Cassin, Proc. Ac. Nat. Sci. Phila., 1864, 256; Berlepsch and Hartert, Novit. Zool., ix, 1902, 49, footnote).—*Muscicapa naevia* Boddaert, Tabl. Pl. Enl., 1783, 34 (Cayenne; based on Pl. Enl., 574, fig. 3).—*Myiobius nævius* Sclater, Proc. Zool. Soc. Lond., 1860, 466; Cat. Am. Birds, 1862, 227 (Brazil; Trinidad); Cat. Birds Brit. Mus., xiv, 1888, 209, part.—*M[yiophobus] nævius* Cabanis and Heine, Mus. Hein., ii, 1859, 69 (Brazil).—[*Muscicapa*] *virgata* Gmelin, Syst. Nat., i, pt. ii, 1788, 948 (Cayenne; based essentially on Pl. Enl., 574, fig. 3).—*Muscipeta virgata* D'Orbigny, Voy. Am. Mérid., Ois., 1839, 320.—*M[yiarchus] virgatus* Cabanis, Wiegmann's Archiv. für Naturg., 1844, 248.—[*Pyrocephalus*] *virgatus* Bonaparte, Consp. Av., i, 1850, 188.—*Platyrhynchus chrysoceps* Spix, Av. Bras., ii, 1825, 10, pl. 11, fig. 2.—*Muscipeta chrysoceps* Maximilian, Beitr. Naturg. Bras., iii, 1831, 940.—*T[yrannula] chrysoceps* Hartlaub, Verz. Mus. Brem., 1844, 49.—*M[yiobius] chrysoceps* Gray, Gen. Birds, i, 1847, 249.—*Muscicapa flammiceps* Temminck, Pl. Col., livr. 24, July, 1822, pl. 144, fig. 3 (Brazil).—*Tyrannula ferruginea* Swainson, Orn. Drawings, Part v (1836?), pl. 53 (Brazil).

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cc. Larger (adult male averaging wing 65.5, tail 57.5, exposed culmen 11.2, tarsus 17.8, middle toe 10). (Argentina.)

Myiophobus fasciatus auriceps (extralimital)[a]

aa. Pileum, back, etc., more rusty brown, the first without yellow or rufous patch; wing-bands cinnamon. (Young.)

MYIOPHOBUS FASCIATUS FURFUROSUS (Thayer and Bangs).

BRAN-COLORED FLYCATCHER.

Similar to *M. f. fasciatus*,[b] but slightly smaller, brown of upper parts slightly paler, and under parts more strongly yellowish and less distinctly streaked.

Adult male.—Above raw umber brown or dull cinnamon-brown, darker and duller on pileum, paler and more cinnamomeous on rump and upper tail-coverts, the pileum indistinctly streaked with darker and with a large concealed patch of lemon yellow, this sometimes passing into rufous at posterior extremity; tail deep grayish brown, the outer webs of rectrices passing into pale grayish brown on edges, the outer web of lateral rectrix and terminal margins of all dull yellowish white; wings (except lesser coverts) dusky, the middle and greater coverts broadly tipped with buff (forming two conspicuous bands), the secondaries edged (except basally) with pale buffy yellowish; sides of head and neck similar in color to back, etc., but slightly paler, fading below into pale yellowish buff on chin and throat, the lores and eyelids partly buffy; under parts pale yellowish buff anteriorly, passing into pale buffy yellow posteriorly, the chest and sides of breast streaked with grayish brown; axillars, under wing-coverts, and edges of inner webs of remiges pale buff, becoming deeper buff on outer margin of wing; maxilla horn brownish, darker terminally; mandible dull brownish white (yellowish or flesh colored in life?); legs and feet dusky brown; length (skins), 107–116 (109); wing, 54–57 (55.9); tail, 47–51 (48.5); exposed culmen, 10–10.5 (10.1); tarsus, 15.5–16.5 (16.1); middle toe, 9.[c]

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[a] *Myiobius auriceps* Gould, in Darwin's Zool. Voy. "Beagle," iii, Birds, no. 9, July, 1839, 47 (Buenos Aires; type now in coll. Brit. Mus.).—*Myiobius nævius* (not *Muscicapa naevia* Boddaert) Sclater and Salvin, Proc. Zool. Soc. Lond., 1868, 138, 142 (Conchitas, Buenos Aires); Sclater and Hudson, Argentine Orn., i, 1888, 151; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 209, part (Oran and Flores, Argentina).

[b] See page 542.

[c] Four specimens.

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Adult female.—Similar to the adult male, but yellow crown-patch more restricted and chest more obsoletely streaked; length (skins), 110–115 (112.5); wing, 54–54.5 (54.2); tail, 49–50 (49.5); exposed culmen, 9.5–10 (9.7); tarsus, 16; middle toe, 8.5–9 (8.7).[a]

Panama (Santa Fé de Veragua; Castillo; Calovevora; Loma del Leon; Paraiso Station; Sabana de Panama; San Miguel and Saboga islands, Bay of Panama).[b]

Myiobius nævius (not *Muscicapa naevia* Boddaert) SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (Santa Fé de Veragua, Panama); 1870, 198 (Calovevora, Panama).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 209, part (Santa Fé de Veragua, Castillo, Lion Hill, and Paraiso Station, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 58, part (Panama localities and references).—BANGS, Auk, xviii, 1901, 30 (San Miguel I., Bay of Panama).

[*Myiobius*] *nævius* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 51, part.—SHARPE, Hand-list ,iii, 1901, 133, part.

[a] Two specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from near Panama City	55.5	47.5	10.2	16.5	9
One adult male from San Miguel Island	56	51	10	16	9
One adult male from Saboga Island	56.5	48	10	15.5	9
FEMALES.					
Comparative average measurements of *M. f. furfurosus*, *M. f. fasciatus*, and *M. f. auriceps* are given below:					
Two adult females from Saboga Island	54.2	48.5	9.7	16	8.7
MALES.					
Four adult males from Panama (including San Miguel and Saboga Islands)	56	48.4	10.1	16.3	9
Four adult males of *M. f. fasciatus* from Colombia	57.9	52.9	10.2	16.1	8.6
One adult male of *M. f. fasciatus* from Venezuela	59	52	11	15	8.5
Three adult males of *M. f. fasciatus* from Trinidad	60.5	53.8	10.5	16.7	8.8
Three adult males of *M. f. fasciatus* from Brazil	57	52	10.3	16.3	9.2
Two adult males of *M. f. auriceps* from Argentina (Conchitas)	65.5	57.5	10.4	17.8	10
FEMALES.					
Two adult females from Saboga Island	54.2	48.5	9.7	16	8.7
Seven adult females of *M. f. fasciatus* from Colombia	55.9	50.7	9.9	16.3	8.8
Three adult females of *M. f. fasciatus* from Venezuela	55.7	50	10.5	15.5	8.5
Three adult females of *M. f. fasciatus* from Trinidad	55.5	48	10.1	15.9	8.8
One adult female of *M. f. fasciatus* from Brazil (Chapada)	55.5	49	10	16	8

[b] Messrs. Thayer and Bangs refer the birds from the mainland of Panama to "*Myiobius nævius nævius*" (= *Myiophobus fasciatus fasciatus*), restricting the subspecific term *furfurosus* to the birds from Saboga and San Miguel islands; but it seems to me that they agree much better with the latter than with Colombian specimens, which I am not able to distinguish from examples of the species from other parts of South America (excepting, of course, those from Argentina).

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Myiobius nævius nævius THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, Jan., 1906, 219 (Sabana de Panama).

Myiobius naevius furfurosus THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, Sept., 1905, 152 (Saboga I., Bay of Panama; coll. E. A. and O. Bangs).

Genus EMPIDONAX Cabanis.

Empidonax CABANIS, Journ. für Orn., iii, Nov., 1855, 480. (Type, *Tyrannula pusilla* SWAINSON, i. e., *Muscicapa traillii* Audubon.)

Small Tyrannidæ (wing about 55–78 mm.) with bill moderately broad or rather narrow, depressed basally (its width at frontal antiæ decidedly less than length of gonys and not much, if any, more than twice its depth at same point), tarsus more than one-fifth (sometimes nearly one-third) as long as wing and more than one and a half times (sometimes nearly twice) as long as middle toe without claw, the upper parts plain olive, olive-green, grayish brown, or brownish gray (the wings with two pale bands, the pileum sometimes black), the under parts more or less yellowish or yellowish white, or buffy, shaded on chest, etc., with gray, olive, brown, or ochraceous.

Bill variable in relative length (usually about half as long as head), moderately broad and depressed basally, its width at frontal antiæ less than length of gonys and not much, if any, greater than its depth at same point, narrowly to broadly wedge-shaped in vertical profile, with lateral outlines straight or nearly so, or (in broader-billed species) faintly convex subterminally; exposed culmen shorter than middle toe with claw (sometimes even shorter than toe without claw), straight to near tip where abruptly decurved, the tip of maxilla distinctly uncinate; gonys much longer than mandibular rami, straight or faintly convex; maxillary tomium straight, distinctly notched subterminally. Nostril more or less (sometimes completely) exposed, longitudinally oval, margined above by narrow or moderately broad membrane. Rictal bristles well developed, but slender; feathers of chin and frontal antiæ with distinct bristly tips, the former recurved, the latter arching over nostrils; malar apex with distinct antrorse or semierect bristles. Wing moderate, rather pointed, the longest primaries exceeding distal secondaries by at least length of middle toe without claw, usually by about length of tarsus (by much more in *E. virescens*); eighth, eighth and ninth, or seventh and eighth, primaries longest, the tenth (outermost) not shorter than second, usually equal to or longer than fourth, sometimes (in *E. virescens*) nearly as long as sixth. Tail more than four-fifths to very nearly as long as wing, even, emarginate, slightly double-rounded, or rounded, usually more or less divaricate. Tarsus more than one-fifth to nearly one-third as long as wing, typically exaspidean but with a series of more or less distinct longitudinal scutella on upper posterior portion of

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outer side, or these sometimes fused into a continuous piece; middle toe, without claw, usually much more than half as long as tarsus, its basal phalanx united to outer toe by nearly to quite the entire length, to inner toe for about half its length; outer toe, without claw, reaching to or slightly beyond middle (falling slightly short of middle in *E. wrightii*) of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux about as long as inner toe, decidedly stouter, its claws shorter than digit (sometimes nearly as long); all the claws moderately curved, sharp, rather larger.

Coloration.—Above plain gray, grayish brown, buffy brown, olive or olive-green, the pileum sometimes black; wings dusky with paler edgings and with two more or less distinct paler bands; under parts yellowish or whitish, shaded on chest and sides with gray, olive or brown (one species entirely buff or ochraceous below).

Nidification.—Nest open above, more or less bulky or else very compact, composed of various vegetable substances and lined with softer materials, and placed in trees or bushes; sometimes composed outwardly of soft green mosses and placed in rocky banks near water or cavities among roots of trees or logs. Eggs creamy white or buff, immaculate or speckled, chiefly round larger end, with brown of various hues.

Range.—Whole of America, except West Indies and parts of South America. (About thirty species and subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF EMPIDONAX.[a]

a. Under parts not ochraceous-buff.
  b. Pileum not black or sooty.
    c. Under tail-coverts white or pale yellow (not buffy).
      d. Tarsus not less than 15 mm.
        e. Tenth (outermost) primary equal to or longer than fifth (sometimes longer than sixth).
          f. Exposed culmen longer than middle toe without claw; bill broader, its width at anterior end of nostrils equal to not less than half the length of exposed culmen.
            g. Above olive-green; wing-bands pale yellow; under parts pale yellow, the chest shaded with olive-green. (Eastern North America, south in winter to Panama.).....**Empidonax flaviventris** (p. 549)
            gg. Above brownish olive to greenish or grayish olive; wing-bands pale olive, pale grayish brown, dull whitish, or buff; under parts white, the chest shaded with pale brownish gray or grayish olive, the lateral and posterior portions sometimes tinged with pale yellow.
              h. Above greenish olive; wing-bands buff; wing and tail longer, feet smaller (adult male averaging wing 74.3, tail 59.3, tarsus 15.5; female, 70.2, 56.3, 14.8). (Eastern United States, south in winter to western Ecuador.).....**Empidonax virescens** (p. 552)
              hh. Above olive (brownish rather than greenish); wing-bands pale grayish brown, pale olive, or dull whitish; wing and tail shorter, feet larger.

[a] Based on adults only.

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i. Tail even or slightly double-rounded; larger (male averaging wing more than 70, tail more than 57, exposed culmen 12 or more). (*Empidonax traillii.*)

j. Above duller or browner olive; wing-bands darker; wing and tail averaging slightly shorter, bill decidedly larger (male averaging wing 70.6, tail 57.8, exposed culmen 13; female, 66, 55.7, 12). (Western North America, south in winter to northern South America.).....**Empidonax traillii traillii** (p. 555)

jj. Above clearer or more greenish olive; wing-bands paler; wing and tail averaging slightly longer, bill decidedly smaller (male averaging wing 71.8, tail 58.4, exposed culmen 12; female, 68.4, 55.4, 11.7). (Eastern and northern North America, south in winter to western Ecuador.)

Empidonax traillii alnorum (p. 558)

ii. Tail slightly but decidedly emarginated; smaller (male averaging wing 64.2, tail 54.3, exposed culmen 10.7; female, 60.9, 52.5, 10.5). (Eastern North America, south in winter to Panama.)

Empidonax minimus (p. 561)

ff. Exposed culmen shorter than middle toe, without claw; bill narrower, its width at anterior end of nostrils decidedly less than half the length of exposed culmen. (Western North America, south in winter to Guatemala.).....**Empidonax hammondii** (p. 565)

ee. Tenth (outermost) primary shorter than fifth (sometimes shorter than fourth).

f. Bill narrower, its width at anterior end of nostrils less than half the length of exposed culmen.

g. Under parts whitish, at least on throat.

h. Above olive; posterior under parts distinctly pale yellow; smaller (male averaging wing 69.5, tail 62.6, exposed culmen 12; female, 67.4, 60.6, 11.9). (Western United States, south in winter to Southern Mexico.).....**Empidonax wrightii** (p. 567)

hh. Above grayish olive (becoming gray on pileum); posterior under parts yellowish white; larger (male averaging wing 72.6, tail 60.8, exposed culmen 12.9; female, 69.1, 58.9, 12.9). (Southern California and Lower California to New Mexico and Colorado, south to central Mexico.).....**Empidonax griseus** (p. 570)

gg. Under parts distinctly yellowish (the throat sometimes pale grayish.)

h. Bill narrower, its width at anterior end of nostrils less than 5 mm.

i. Above clearer or less brownish olive.

j. Much paler olive above; chin and throat pale yellowish or yellowish white; larger (male averaging wing 77.4, tail 66.1; female, 72.5, 62). (Northwestern Mexico.)

Empidonax pulverius (p. 572).

jj. Much darker olive above; chin and throat flecked or suffused with dusky; smaller (male averaging wing 73.8, tail 64.5; female, 69.4, 59.1). (Northeastern to southern Mexico.)

Empidonax trepidus (p. 575)

ii. Above more brownish olive (male averaging wing 73.2, tail 62). (Eastern Mexico.).....**Empidonax fulvipectus** (p. 573)

hh. Bill broader, its width at anterior end of nostrils 5–6 mm. (*Empidonax difficilis.*)

i. Coloration paler and duller, the upper parts less decidedly olive-greenish, the under parts less strongly yellowish; bill more tapering terminally, with lateral outlines more nearly straight.

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j. More strongly olive above, more decidedly yellowish beneath; wing averaging longer, tail slightly shorter and relatively broader; male averaging wing 67.5, tail 57.1, exposed culmen 11.8; female, 64.4, 55, 11.4. (Western North America, south in winter to southern Mexico.)

Empidonax difficilis difficilis (p. 576)

jj. More grayish olive above, paler yellowish beneath; wing averaging shorter, tail slightly longer, bill longer and relatively narrower; male averaging wing 65.7, tail 57.5, exposed culmen 12.3; female, 61.7, 55.1, 11.6. (Lower California to Sonora and southern Arizona.)

Empidonax difficilis cineritius (p. 580)

ii. Coloration darker and brighter, the upper parts more decidedly olive-greenish, the under parts more strongly yellowish; bill broader terminally, with lateral outlines more convex. (Central and southern Mexico.)...**Empidonax difficilis bairdi** (p. 581)

ff. Bill broader, its width at anterior end of nostrils more than half the length of exposed culmen.

g. Less yellowish olive-green above, abdomen, etc., more sulphur yellow; chest light olive-greenish; larger (wing 69 in male, 64.5 in female). (Highlands of Guatemala and Chiapas.)..**Empidonax salvini** (p. 582)

gg. More yellowish olive-green above, abdomen, etc., canary yellow, chest fulvescent; smaller (wing averaging 66.5 in male, 61.5 in female). (Highlands of Costa Rica and Panama.)

Empidonax flavescens (p. 583)

dd. Tarsus not more than 14.5 mm.

e. Pileum and hindneck dark gray, in slight but obvious contrast with grayish olive of back, etc.; wing-bands grayish white. (Western Ecuador.).....**Empidonax griseipectus** (extralimital) [a]

ee. Pileum brown or olive, concolor with back; wing-bands buff or cinnamon.

f. Above brown; under wing-coverts buff. (Southern Brazil; Argentina; Paraguay.).....**Empidonax argentinus?** (extralimital) [b]

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[a] *Empidonax griseipectus* Lawrence, Ann. Lyc. Nat. Hist. N. Y., ix, 1869, 236 (Puna I., near Guayaquil, w. Ecuador; coll. U. S. Nat. Mus.); Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 365; Ridgway, Ibis, 1886, 464; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 225 (Babahoyo, w. Ecuador).—[*Empidonax*] *griseipectus* Sclater and Salvin, Nom. Av. Neotr., 1873, 52; Sharpe, Hand-list, iii, 1901, 138.—*Empidochanes griseipectus* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 558 (Chimbo, w. Ecuador).

[b] (?) *Empidochanes argentinus* Cabanis, Journ. für Orn., xiv, no. 93, May, 1868, 196 (Buenos Aires; coll. Berlin Mus.).—?[*Myiobius*] *argentinus* Gray, Hand-list, i, 1869, 360, no. 5478.—?*Empidonax argentinus* Berlepsch and Hellmayr, Journ. für Orn., Jan., 1905, 23 (crit.).—*Empidonax brunneus* (not *Pipra brunnea* Thunberg, Mém. Acad. Imp. Sci. St. Pétersb., viii, 1822, which Lönnberg, in Ibis, 1903, 242, says=*Empidonax bimaculatus?*) Ridgway, in Baird, Brewer, and Ridgway's Hist. N. Am. Birds, ii, 1874, 363 (Rio Paraná, Paraguay; coll. U. S. Nat. Mus.); iii, 1874, 519; Ibis, 1886, 460, 463; Sclater, Ibis, 1887, 64 (crit.).—*Empidonax brunnescens* (error) Salvin, Ibis, 1874, 309, in text (crit.).—*Empidonax bimaculatus* (not *Muscipeta bimaculata* D'Orbigny and Lafresnaye) Sclater, Ibis, 1887, 65, part (crit.); Cat. Birds Brit. Mus., xiv, 1888, 224, part (in synonymy); Berlepsch, Journ. für Orn., 1887, 118 (Paraguay); Ihering, Rev. Mus. Paul., vi, 1904, 326 (Paraguay); (?) Sclater and Hudson, Argentine Orn., i, 1888, 155.—[*Empidochanes*] *fuscatus* (not *Muscipeta fuscata* Maximilian) Sclater and Salvin, Nom. Av. Neotr., 1873, 31, part.

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ff. Above olive; under wing-coverts pale yellow.

g. Above clear olive; under parts paler, the chest not extensively nor conspicuously olive. (Bolivia.)

Empidonax bolivianus (extralimital)[a]

gg. Above dark olive; under parts darker, the chest extensively and conspicuously olive. (Trinidad.)

Empidonax lawrencei (extralimital)[b]

cc. Under tail-coverts buffy.

d. Chest pale grayish brown, in contrast with dull grayish white of throat; grayish brown of upper parts darker. (Southern Mexico to Costa Rica.)

Empidonax albigularis (p. 584)

dd. Chest pale grayish buffy, scarcely different from the paler buffy of throat; grayish brown of upper parts paler. (Western Mexico.)

Empidonax timidus (p. 586)

bb. Pileum and hindneck black or sooty, in contrast with olive or olive-brown of back, etc. (Costa Rica and Panama.).....**Empidonax atriceps** (p. 586)

aa. Under parts ochraceous-buffy. (*Empidonax fulvifrons*.)

b. Pileum buffy brownish, concolor with back.

c. Larger (wing 68, tail 57). (Northeastern Mexico.)

Empidonax fulvifrons fulvifrons (p. 588)

cc. Smaller (wing not more than 65, usually much less; tail less than 55).

d. Paler, with upper parts grayer, under parts more buffy. (Southern Arizona and southwestern New Mexico to northern Sinaloa, Jalisco, and Durango.)

Empidonax fulvifrons pygmæus (p. 589)

dd. Darker, with upper parts browner, under parts more ochraceous. (Central and southern Mexico; Guatemala?)

Empidonax fulvifrons rubicundus (p. 591)

bb. Pileum and hindneck dusky sooty gray or grayish sepia, in contrast with olive-brown of back. (State of Chiapas, southern Mexico; Guatemala?)

Empidonax fulvifrons fusciceps (p. 592)

EMPIDONAX FLAVIVENTRIS (Baird).

YELLOW-BELLIED FLYCATCHER.

Adults (*sexes alike*).[c]—Above plain greenish olive or dull olive-green, the feathers of pileum slightly darker centrally or mesially; tail deep grayish brown, with outer webs of rectrices passing into greenish olive on edges; wings dull black, the middle and greater coverts broadly tipped with pale olive-yellow or dull primrose yellow, the secondaries edged (except basally) with the same, the

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[a] *Empidonax bolivianus* Allen, Bull. Am. Mus. N. H., ii, Mar., 1889, 86 (Yungas?, Bolivia; coll. Am. Mus. Nat. Hist.).—[*Empidonax*] *bolivianus* Sharpe, Hand-list, iii, 1901, 138.

[b] *Myiobius flaviventris* (not *Tyrannula flaviventris* Baird) Léotaud, Ois. Trinidad, 1866, 229 (Trinidad).—*Ochthœca flaviventris* Lawrence, Ann. N. Y. Acad. Sci., iv, June, 1887, 67 ("South America;" coll. G. N. Lawrence).—*Empidonax lawrencei* Allen, Bull. Am. Mus. N. H., ii, June 28, 1889, 150 (crit.; new name for *Ochthœca flaviventris* Lawrence) Chapman, Bull. Am. Mus. N. H., vi, 1894, 42 (Trinidad; [notes; crit.); Hellmayr, Novit. Zool., xiii, 1906, 25 (Caparo, Trinidad; crit.).—[*Empidonax*] *lawrencei* Sharpe, Hand-list, iii, 1901, 138.

[c] I am unable to distinguish any constant seasonal difference in coloration in this species.

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primaries dusky grayish brown very narrowly and indistinctly edged with paler; a pale yellow orbital ring, less distinct but scarcely interrupted on middle of upper eyelid; lores mixed pale yellowish and dusky grayish; rest of sides of head and sides of neck similar in color to back but slightly paler, gradually fading below into pale yellow (more or less tinged with olive) on chin and throat; chest and sides of breast light yellowish olive, gradually becoming paler toward flanks; rest of under parts pale yellow (primrose to straw or nearly sulphur yellow); axillars and under wing-coverts primrose yellow, the outermost coverts with dusky grayish centers; inner webs of remiges edged with pale grayish buffy; maxilla brownish black, mandible wholly pale yellowish (buffy or very pale brownish in dried skins); iris brown; legs and feet dusky brown to brownish black.

Young.—Similar to adults, but upper parts duller (less greenish) olive, wing-bands buff, and yellow of under parts paler.

Adult male.—Length (skins), 116–127 (121); wing, 65–70 (67.7); tail, 49.5–55.5 (52.6); exposed culmen, 11–11.5 (11.3); tarsus, 15.5–17 (16.5); middle toe, 8.5–9.5 (8.9).[a]

Adult female.—Length (skins), 107–126 (118); wing, 62.5–65 (63.6); tail, 47–52 (50); exposed culmen, 11–11.5 (11.1); tarsus, 16–17 (16.7); middle toe, 8–9 (8.6).[b]

Eastern North America, north to Newfoundland, southern Labrador, Quebec (Pointe des Monts), Ontario, and Manitoba, accidentally to southwestern Greenland (two specimens); breeding southward to Maine, northern New York (Madison County), mountains of Pennsylvania (Lycoming and Bradford counties), northern Indiana (Lake County)?, northeastern Illinois (Cook County)?, northern Minnesota and North Dakota (Stump Lake); migrating southward through eastern Mexico (States of Tamaulipas, Vera Cruz, Oaxaca, Campeche, and Chiapas), Guatemala (Dueñas; Choctum; Retalhuleu; Nenton), Honduras (Truxillo; San Pedro), Nicaragua (Ometepe; Sucuyá; Rio Escondido), and Costa Rica (San José; Navarro; Angostura; Grecia;

[a] Twelve specimens.

[b] Five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Atlantic coast	68	53	11.4	16.6	9
Three adult males from Mississippi Valley	66.6	51.3	11.2	16.3	8.7
FEMALES.					
Four adult females from Atlantic coast	63.3	49.5	11.2	16.6	8.6
One adult female from Mississippi Valley (Illinois)	65	52	11	17	8.5

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Pozo Azul) to Panama (Lion Hill; Panama City; Divala; Boquete; Calovevora).

Tyrannula flaviventris BAIRD (Wm. M. and S. F.), Proc. Ac. Nat. Sci. Philad., i, July, 1843, 283 (Carlisle, Pennsylvania; type now in coll. U. S. Nat. Mus.); Am. Journ. Sci., xlvi, 1846, 274.

Muscicapa flaviventris AUDUBON, Birds Am., oct. ed., vii, 1844, 341, pl. 490.

Empidonax flaviventris BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 198; Cat. N. Am. Birds, 1859, no. 144.—SCLATER, Proc. Zool. Soc. Lond., 1859, 366 (Jalapa, Vera Cruz); Ibis, 1859, 441, part (Jalapa); Cat. Am. Birds, 1862, 229 (Jalapa; Choctum and Dueñas, Guatemala); Cat. Birds Brit. Mus., xvi, 1888, 230 (Jalapa; Retalhuleu, Choctum, and Dueñas, Guatemala; Angostura, Costa Rica; Calovevora and Chiriqui, Veragua; Panama).—SCLATER and SALVIN, Ibis, 1859, 122 (Guatemala); 1864, 360 (Lion Hill, Panama); 1870, 837 (San Pedro, Honduras).—LAWRENCE, Ann. Lyc. N. Y., viii, 1863, 486 (Lion Hill, Panama R. R.); ix, 1868, 114 (Grecia and Navarro, Costa Rica); Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Guichicovi and Santa Efigenia, Oaxaca).—DRESSER, Ibis, 1865, 475 (San Antonio, Texas, "common in summer").—BUTCHER, Proc. Sc. Nat. Sci. Philad., 1868, 149 (Laredo, Texas).—FRANTZIUS, Journ. für. Orn., 1869, 308 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—SALVIN, Proc. Zool. Soc. Lond., 1870, 199 (Calovevora, Panama); Cat. Strickland Coll., 1882, 314 (Carlisle, Pennsylvania).—COUES, Check List, 1873, no. 259, part; 2d ed., 1882, no. 388.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1814, 378, pl. 44, fig. 12.—NELSON, Bull. Essex Inst., viii, 1876, 114, 152 (n. e. Illinois and n. w. Indiana, migr.; breeding?).—ALLEN, Bull. Nutt. Orn. Club, iii, 1878, 101 (Reading, Massachusetts, Nov. 29, 1876, and Newton, Massachusetts, Dec. 1, 1876).—PURDIE, Bull. Nutt. Orn. Club, iii, 1878, 166 (Aroostook Co., Maine; nesting habits; descr. nest and eggs).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 178 (descr. young).—OSBORNE, Bull. Nutt. Orn. Club, iii, 1878, 187 (Grand Manan; descr. nest and eggs); iv, 1879, 240 (Oxford Co., Maine; descr. nest and eggs).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., v, 1879, 405 (Lomita, Texas, May).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 4 (descr. nests and eggs).—BATCHELDER, Bull. Nutt. Orn. Club, iv, 1879, 240 (Fort Fairfield, Maine; descr. nest and eggs); vii, 1882, 149 (Fort Fairfield and Houlton, Maine).—EDDY, Bull. Nutt. Orn. Club, v, 1880, 241 (Penobscot Bay, Maine; descr. nest and eggs).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 322; Ibis, 1886, 466; Orn. Illinois, i, 1889, 353.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 236 (Point de Monts, Quebec); Auk, i, 1884, 295 (do.).—BICKNELL, Auk, ii, 1885, 256 (notes).—(?) SETON, Auk, iii, 1886, 321 (Duck Mts., w. Manitoba, breeding).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 384 (Sucuyá, Nicaragua).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 463.—COOKE, Bird Migr. Miss. Val., 1888, 153 (breeding in n. Minnesota and Manitoba).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 73.—WARREN, Birds Pennsylvania, 1890, 195 (breeding in Lycoming Co.).—DWIGHT, Auk, ix, 1892, 136 (North Mountain, Bradford Co., Pennsylvania, breeding); x, 1893, 10 (Prince Edward I.).—CHERRIE, Auk, ix, 1892, 251 (San José, Costa Rica).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Escondido, Nicaragua).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 295, pl. 2, fig. 23 (egg).—BUTLER, Birds Indiana, 1897, 866 (possibly breeding in Lake Co.).—PORTER, Auk, xvii, 1900, 72 (Newfoundland, Aug.).—EMBODY, Birds Madison Co., New York, 1901, 20 (breed-

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ing).—BANGS, Auk, xviii, 1901, 363 (Divala, Panama, Nov. 30); Proc. New Engl. Zool. Club, iii, 1902, 39 (Boquete, Panama, Jan.).—WILLIAMS, Auk, xxi, 1904, 457 (Leon Co., Florida, Oct.).—SCHALOW, Vog. der Arktis, 1904, 236 (Godthaab, Greenland, 1 spec. summer 1853, 1 spec., Sept., 1878).

[*Empidonax*] *flaviventris* COUES, Key N. Am. Birds, 1872, 175, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 139.

E[*mpidonax*] *flaviventris* COUES, Key N. Am. Birds, 2d ed., 1884, 442; 5th ed., i, 1903, 530.—RIDGWAY, Man. N. Am. Birds, 1887, 341.

[*Empidonax flaviventris*]var. *flaviventris* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 364.

[*Empidonax flaviventris*] a. *flaviventris* COUES, Birds Northwest, 1874, 255.

[*Pyrocephalus*] *flaviventris* GRAY, Hand-list, i, 1869, 361, no. 5493 (excl. syn. *difficilis* Baird).

[*Tyrannula*] *minuta* (not *Muscicapa minuta* Wilson?) BONAPARTE, Consp. Av., i, 1850, 189.

Tyrannula pusilla (not *Platyrhynchus pusillus* Swainson) REINHARDT, Vid. Medd. for 1853 (1854), 82 (Godthaab, Greenland); Ibis, 1861, 7 (do.); Journ. für Orn., 1854, 428, 439 (Greenland).

Tyrannula ———? SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz).

Empidonax hypoxanthus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 198, in synonymy of *E. flaviventris* ("Provisional name for eastern specimens").[a]

EMPIDONAX VIRESCENS (Vieillot).

GREEN-CRESTED FLYCATCHER.

Adults (*sexes alike*).—Above plain grayish olive-green, slightly darker and duller on pileum; tail grayish brown (nearly hair brown), the outer webs of rectrices passing into grayish olive-green on edges; wings darker grayish brown or dusky, the middle and greater coverts broadly tipped with pale buff or olive-buff (forming two conspicuous bands), the secondaries edged (except basally) with the same; a rather broad orbital ring of dull white or yellowish white, narrower but scarcely interrupted on upper eyelid; lores dull whitish, more or less suffused with dusky, especially near anterior angle of eyes; sides of head otherwise and sides of neck similar in color to back, fading gradually below into the dull yellowish white of chin and throat; under parts dull yellowish white, passing into primrose or pale sulphur yellow posteriorly (whole under parts usually more or less tinged with this color, especially laterally), the chest and sides shaded with pale grayish olive; axillars and under wing-coverts pale sulphur or primrose yellow; inner webs of remiges edged with pale grayish buffy; maxilla deep or dark horn brown, mandible pale brownish buffy (fleshy or lilaceous whitish in life); iris brown; legs and feet horn color (more or less dark).

Young.—Similar to adults, but feathers of upper parts narrowly tipped with pale buffy,[b] and wing-bands clear buff or cream-buff.

[a] In case *Muscicapa flaviventris* Vieillot (Ois. Am. Sept., i, 1807, 70, from Santo Domingo), unidentified, should prove to be congeneric.

[b] Agreeing in this respect with the young of species of *Myiochanes* and *Blacicus*, and the only *Empidonax* thus marked.

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Adult male.—Length (skins), 127–142 (133); wing, 71–80.5 (74.3); tail, 55–61.5 (59.3); exposed culmen, 11.5–13 (12.6); tarsus, 14.5–16 (15.5); middle toe, 8–10 (8.8).[a]

Adult female.—Length (skins), 121–134 (129); wing, 67.5–75.5 (70.2); tail, 54–61 (56.3); exposed culmen, 11–12.5 (12.2); tarsus, 14.5–15.5 (14.8); middle toe, 8–9 (8.6).[b]

Eastern United States, north to Long Island (Oyster Bay, Woodhaven, Northport, etc.), lower Hudson Valley (Riverdale), central New York (Syracuse), southern Ontario, southern Michigan (Wayne County), etc., casually to Massachusetts (Hyde Park); west to middle portion of Great Plains, from Nebraska (Sioux County; casual?) to Texas; breeding southward to northern Florida (Gainesville; Wacissa River) and thence through Gulf States to Texas (San Antonio; Gainesville; Harris County; Fort Clark, May 15); southward in winter to the Bahamas (Cay Lobos) and Cuba and through eastern Mexico (Alta Mira, Tamaulipas; Merida, Yucatan), Honduras (Ruatan Island), Nicaragua (Rio Escondido), Costa Rica (San José), Panama, Colombia (Bonda, Onaca, and Valparaiso, Santa Marta) to western Ecuador (Esmeraldas; Chimbo; Cachavi).

Muscicapa querula (not of Vieillot, 1807) WILSON, Am. Orn., ii, 1810, 77, pl. 13, fig. 3.

(?) *Muscicapa acadica* (not of Gmelin) BONAPARTE, Synopsis Birds U. S., 1828, 68.—(?) AUDUBON, Orn. Biog., ii, 1834, 256; v, 1839, 429, pl. 144; Synopsis, 1839, 42; Birds Am., oct. ed., i, 1840, 221, pl. 62.

Tyrannula acadica BONAPARTE, Geog. and Comp. List, 1838, 24.—WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 74 (Indian Territory; Texas; "New Mexico").

T[yrannula] acadica HARTLAUB, Syst. Verz., 1844, 50.

[Tyrannula] acadica BONAPARTE, Consp. Av., i, 1850, 189.

(?) *Muscipeta acadica* D'ORBIGNY, Voy. Amér. Mérid., iv, Ois., 1839, 318 (Santo Corazon de Chiquitos, Bolivia).

M[yiobius] acadicus GRAY, Gen. Birds, i, 1847, 249.

M[yiarchus] acadicus CABANIS, Wiegmann's Archiv. für Naturg., 1847, i, 248.

[a] Twenty-four specimens.

[b] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic States	74.5	59.9	12.5	15.3	8.9
Six adult males from Ohio, Indiana, and Illinois	74.8	59.1	12.4	15.4	8.7
Eight adult males (breeding) from Texas	73.6	58.6	12.8	15.8	8.9
FEMALES.					
Five adult females from Atlantic States	70.8	56.3	12.5	15.1	8.8
Four adult females from Ohio, Illinois, and Louisiana	69.8	58.5	11.7	14.6	8.5
Three adult females (breeding) from Texas	69.7	55.7	12.3	14.7	8.3

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Empidonax acadicus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 197; Cat. N. Am. Birds, 1859, no. 143.—GUNDLACH, Journ. für Orn., 1861, 328 (Cuba); 1862, 189 (do.); 1872, 427 (do.); Repert. Fisico-Nat. Cuba, i, 1866, 240; Orn. Cub., 1893, 88.—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 265 (Cuba); viii, 1866, 290 (vicinity New York City).—SCLATER, Cat. Am. Birds, 1862, 229 (Pennsylvania; New York); Cat. Birds Brit. Mus., xiv, 1888, 228 (Ruatan I., Bay of Honduras; Costa Rica; Esmeraldas, Ecuador).—DRESSER, Ibis, 1865, 475 (San Antonio, Texas, breeding).—McILWRAITH, Proc. Essex Inst., v, 1866, 84 (Hamilton, Ontario).—COUES, Check List, 1873, no. 256; 2d ed., 1882, no. 384; Birds Northwest, 1874, 249; Bull. Nutt. Orn. Club, v, 1880, 23 (St. Louis, Missouri; habits; descr. nest and eggs).—SNOW, Birds Kansas, 1873, 4 (e. Kansas).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 374, pl. 44, fig. 11.—NELSON, Bull. Essex Inst., viii, 1876, 114, 152 (n. e. Illinois).—MERRIAM, Trans. Conn. Ac. Sci., iv, 1877, — (Connecticut).—BICKNELL, Bull. Nutt. Orn. Club, iii, 1878, 131 (Riverside, lower Hudson Valley, breeding; habits); Auk, ii, 1885, 256 (notes).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 177 (descr. young).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 137 (Fort Brown, Texas).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 5 (descr. eggs).—COUES and SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., v, 1879, 405 (Lomita Ranch, Texas).—LOOMIS, Bull. Nutt. Orn. Club, iv, 1879, 215 (Chester Co., South Carolina, breeding).—RIDGWAY, Nom. N. Am. Birds, 1881, 324; Orn. Illinois, i, 1889, 356.—SALVIN, Cat. Strickland Coll., 1882, 314 (Pennsylvania); Ibis, 1889, 360 (Ruatan I., Honduras; Costa Rica; crit.).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 169 (s. e. Texas, breeding; habits).—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 558 (Chimbo, w. Ecuador; crit.).—CORY, Auk, iii, 1886, 234 (Cuba); Birds West Ind., 1889, 121; Cat. West Ind. Birds, 1892, 109 (Cuba).—(?) SETON, Auk, iii, 1886, 321 (Duck Mt., w. Manitoba, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 465.—CHAPMAN, Auk, v, 1888, 272 (Gainesville, Florida, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 153 (breeding range, etc.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 70.—CHERRIE, Auk, vii, 1890, 334 (San José, Costa Rica).—GOSS, Hist. Birds Kansas, 1891, 366 (e. and mid. Kansas, breeding).—ATTWATER, Auk, ix, 1892, 236 (San Antonio, Texas, breeding).—TODD, Auk, x, 1893, 39 (Indiana Co., w. Pennsylvania, breeding).—(?) WHITE, Auk, x, 1893, 225 (Mackinac I., n. Michigan; "common migrant").—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Escondido, Nicaragua).—HOWELL, Auk, xi, 1894, 82 (Woodhaven, Northport, etc., Long Island, breeding).—WAYNE, Auk, xii, 1895, 365 (Wacissa R., n. w. Florida, breeding).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 302, pl. 2, figs. 26, 27.—HARTERT, Novit. Zool., v, 1898, 488 (Cachavi, n. w. Ecuador).—BONHOTE, Auk, xx, 1903, 174 (Cay Lobos, Bahamas, Apr. 15).

E[mpidonax] acadicus CABANIS and HEINE, Mus. Hein., ii, 1859, 70, footnote.—COUES, Key N. Am. Birds, 2d ed., 1884, 441.—RIDGWAY, Man. N. Am. Birds, 1887, 342.

[*Empidonax*] *acadicus* COUES, Key N. Am. Birds, 1872, 174.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).—CORY, List Birds West Ind., 1885, 15 (Cuba).

[*Empidonax acadicus*] var. *acadicus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 365.

[*Pyrocephalus*] *acadicus* GRAY, Hand-list, i, 1869, 361, no. 5492.

Platyrhynchos virescens VIEILLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 22 (based on *Muscicapa querula* Wilson, Am. Orn., ii, 1810, 77, pl. 13, fig. 2, not *M. querula* Vieillot, 1807).

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Empidonax virescens BREWSTER, Auk, xii, Apr., 1895, 157 (crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Check List, 2d ed., 1895, no. 465; Auk, xiv, 1897, 127.—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia).—ALLEN, Bull. Am. Mus. Nat. Hist., xiii, 1900, 143 (Bonda, Onaca, and Valparaiso, Santa Marta, Colombia, Nov. 16 to Mar. 21); Auk, xvii, 1900, 365 (do).—CARY, Auk, xviii, 1901, 235 (Pine Ridge, Sioux Co., Nebraska, 1 spec., May 26).—ALLISON, Auk, xxi, 1904, 478 (West Baton Rouge Parish, Louisiana, breeding).—TODD, Ann. Carnegie Mus., ii, 1904, 563 (Erie Co., w. Pennsylvania, breeding).—STOCKARD, Auk, xxii, 1905, 157 (Mississippi, breeding).—WOOD, Auk, xxiii, 1906, 423 (Wayne Co., Michigan, breeding).

E[mpidonax] virescens RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 342.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 528.

[*Empidonax*] *virescens* SHARPE, Hand-list, iii, 1901, 138.

Muscicapa pusilla (not *Platyrhynchus pusillus* Swainson) LEMBEYE, Aves de la Isla de Cuba, 1850, 40.

Empidonax pusillus (not of Baird) CABANIS, Journ. für Orn., 1855, 480 (Cuba).—GUNDLACH, Journ. für Orn., 1861, 410 (Cuba); 1871, 286 (Cuba).

Myiarchus pusilla BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307 (Cuba).

Tyrannula pusilla (not of Swainson) GUNDLACH, Journ. für Orn., 1855, 480 (Cuba).

Empidonax bairdii (not of Sclater) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 327 (Panama).

Empidonax griseigularis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862, 471 (Panama; coll. G. N. Lawrence).

[*Empidonax*] *griseigularis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.

Empidonax acadicus var. *griseigularis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 365, footnote.

[*Pyrocephalus*] *griseigularis* GRAY, Hand-list, i, 1869, 361, no. 5498.

EMPIDONAX TRAILLII TRAILLII (Audubon).

TRAILL'S FLYCATCHER.

Adults (*sexes alike*).—Above plain olive (varying from a slightly grayish to a decidedly brownish hue), the pileum and hindneck usually very slightly grayer or less brownish than back, etc., the rump and upper tail-coverts paler and more brownish olive; tail deep grayish brown, the outer webs of rectrices passing into olive on edges, the outer web of lateral rectrix paler, sometimes approaching dull whitish; wings darker grayish brown, the middle and greater coverts broadly tipped with pale olive or pale buffy grayish brown, forming two conspicuous bands, of which the posterior one is usually more or less paler than the anterior, sometimes approaching dull olive-whitish; secondaries edged (except basally) with olive-whitish, yellowish white or (rarely) nearly pure white; lores and an indistinct orbital ring olive-whitish, the former intermixed with dusky, especially near anterior angle of eye; rest of sides of head and sides of neck similar in color to upper parts but slightly paler and grayer, gradually fading below into the white (more or less pure) of chin and throat; chest and sides of breast pale brownish gray or olive-gray, the sides similar but paler, fading into pale olive or greenish olive

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on flanks; rest of under parts white, more or less tinged with pale primrose yellow, at least on flanks, anal region, and under tail-coverts; axillars and under wing-coverts pale primrose-yellow, the latter more buffy and with feathers grayish brown centrally, along edge of wing; inner webs of remiges edged with pale grayish buff; maxilla dusky brown to brownish black, mandible wholly pale brownish or brownish white (more or less lilaceous in life); iris brown; legs and feet dusky brown to brownish black.

Young.—Essentially like adults, but color of upper parts browner olive and wing-bands buff or cinnamon-buff.

Adult male.—Length (skins), 124–141 (133); wing, 69–74.5 (71.2); tail, 55–62.5 (58.5); exposed culmen, 11–13.5 (12.7); tarsus, 15.5–17.5 (16.8); middle toe, 9–10.5 (9.7).[a]

Adult female.—Length (skins), 120–144 (130); wing, 63–75.5 (67.5); tail, 52–60.5 (56.1); exposed culmen, 11–13 (12); tarsus, 14.5–17 (16.3); middle toe, 9–10 (9.5).[b]

Western North America; east, northerly, to western portion of Great Plains, much farther southerly, breeding in Iowa (?), Missouri, southern Illinois, and probably elsewhere in central Mississippi Valley; north to coast district of British Columbia (Comox; Howe Sound) and coast district of southern Alaska (Dyäthal)?, northern Idaho, and Montana(?); south, in winter over greater part of Mexico to Nicaragua (Sucuyá; San Carlos; Greytown), Costa Rica (Pozo Azul), Panama (Saboga Island), and Colombia (Bonda, Buritaca, Pedregal, and Cuatilito, Santa Marta).

Muscicapa traillii AUDUBON, Orn. Biog., i, 1832, 236 (Arkansas; types in coll. U. S. Nat. Mus.); v, 1839, 426, pl. 45; Synopsis, 1839, 43; Birds Am., oct. ed., i, 1840, 234, pl. 65.

Tyrannula traillii RICHARDSON, "Rep. Br. Assoc. 1837."—WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 74 (Indian Territory; Texas).—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, no. 2, 1859, 38 (California, etc.).

[*Tyrannula*] *traillii* BONAPARTE, Consp. Av., i, 1850, 189.

[a] Twenty specimens.

[b] Eighteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from California and Oregon	69.9	57.9	13.1	16.9	9.5
Five adult males from Rocky Mountain district	71.8	58.5	13	16.6	9.9
Two adult males from southern Illinois	70.2	56	12.7	16.5	9.5
FEMALES.					
Seven adult females from California and Oregon	65.8	56.9	12.2	16.4	9.3
Three adult females from Rocky Mountain district	65.7	54	12.2	16.3	9.8
Two adult females from southern Illinois	67.5	53.7	11.2	15.2	9.5

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Tyrannula trailli BONAPARTE, Geog. and Comp. List, 1838, 24.

Tyrannus traillii NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 323.

M[yiobius] traillii GRAY, Gen. Birds, i, 1847, 249.

Empidonax traillii (not of Baird) DRESSER, Ibis, 1865, 474 (San Antonio, Texas).—COOPER, Orn. Cal., i, 1870, 327 (Fort Mojave, near Los Angeles, and Santa Barbara, California).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Kansas).—RIDGWAY, Bull. Essex Inst., v, 1873, 184 (Colorado).—COUES, Check List, 1873, no. 257.—SNOW, Birds Kansas, 1873, 3 (Kansas).—LANGDON, Birds Cincinnati, 1877, 10 (near Cincinnati, Ohio, breeding).—BREWSTER, Auk, xii, 1895, 159 (crit.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 466 (breeding).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 38 (Pedregal, Colombia, Aug. 21).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 260.—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 276 (Buritaca, Bonda, and Cuatilito, Santa Marta, Colombia, Sept., Oct.; crit.).

Empidonax trailli SENNETT, Bull. U. S. Geog. and Geol. Surv. Terr., v, 1879, 405 (domita Ranch, Texas, May 3).—COUES, Bull. Nutt. Orn. Club, v, 1880, 24 (St. Louis Co., Missouri; habits; descr. nest and eggs).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 71, part.

E[mpidonax] traillii RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 343.

Empidonax traillii traillii BANGS, Bull. Mus. Comp. Zool., xxxix, July, 1903, 148 (Ceiba, Honduras).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 153 (Saboga I., Panama, Apr.).

Empidonax pusillus, var. *trailli* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 369, part.—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 137 (Fort Brown, Texas).

Empidonax pusillus, var. *traillii* RIDGWAY, Ann. Lyc. N.Y., x, 1874, 376 (Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 114 (n. e. Illinois, breeding).

Empidonax pusillus traillii AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 466*a*, part.—COOKE, Bird Migr. Miss. Val., 1888, 154 (Mississippi Valley localities).—RIDGWAY, Orn. Illinois, i, 1889, 355.—GOSS, Hist. Birds Kansas, 1891, 369 (summer resident).

[*Empidonax traillii*] a. *traillii* COUES, Birds Northwest, 1874, 252, part.

E[mpidonax] trailli COUES, Key N. Am. Birds, 5th ed., i, 1903, 529.

Empidonax trailli trailli GRINNELL (J.), Check List. Calif. Birds, June 25, 1902, 43.

(??) *Platyrhynchus pusillus* SWAINSON, Philos. Mag., n. s., i, May, 1827, 366 ("maritime parts of Mexico").

(??) *Tyrannula pusilla* SWAINSON, Fauna Bor.-Am., ii, 1831, 144, pl. 46, upper fig.—RICHARDSON, App. Back's Voy., 1834-36, 114.

Tyrannula pusilla GAMBEL, Proc. Ac. Nat. Sci. Philad., iii, 1847, 156 (California).—BONAPARTE, Geog. and Comp. List, 1838, 24.

T[yrannula] pusilla BONAPARTE, Consp. Av., i, 1850, 189.

(?) *Muscicapa pusilla* AUDUBON, Orn. Biog., v, 1839, 288, pl. 434; Synopsis, 1839, 44; Birds Am., oct. ed., i, 1840, 236, pl. 66.

Tyrannus pusillus NUTTALL, Man. Orn. U. S. and Can., ed. 2, i, 1840, 324.

M[yiobius] pusillus GRAY, Gen. Birds, i, 1847, 249.

Empidonax pusillus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 194; Cat. N. Am. Birds, 1859, no. 141; Rep. U. S. and Mex. Bound. Surv., ii, pt. 2, 1859, 9 (Los Nogales, Sonora; Rio Nasas, Durango).—SCLATER, Ibis, 1859, 441 (Los Nogales, Sonora); Cat. Am. Birds, 1862, 229 (Fort Steilacoom, Washington); Cat. Birds Brit. Mus., xiv, 1888, 225, excl. syn. part (Utah; Fort Steilacoom, Washington; Fort Yuma, California; British Columbia).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 170, part (Washington and Oregon; includes *E. difficilis*).—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 61 (Arizona).—

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BROWN, Ibis, 1868, 420 (Vancouver I.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 366, pl. 44, fig. 9.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 126 (Arizona).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 3 (descr. nest and eggs).—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 206 (Tucson, Arizona; crit.; descr. nest).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 384 (Sucuyá, Nicaragua).—HARTLAUB, Journ. für Orn., 1883, 267 (Dyăthal, Alaska).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains up to 8,000 feet).—RIDGWAY, Orn. 40th Parallel, 1877, 539 (Sacramento, California; localities in Nevada and Utah; habits); Nom. N. Am. Birds, 1881, no. 325.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 466.—(?) NELSON, Nat. Hist. Coll. Alaska, 1887, 162, part (Dejăh Valley).—LLOYD, Auk, iv, 1887, 193 (Tom Green Co., w. Texas, breeding).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 305, pl. 2, figs. 28, 29 (eggs).

E[mpidonax] pusillus CABANIS and HEINE, Mus. Hein., ii, 1859, 70 (Mexico).—COUES, Key N. Am. Birds, 2d ed., 1884, 442.—RIDGWAY, Man. N. Am. Birds, 1887, 343.

[*Empidonax*] *pusillus* SHARPE, Hand-list, iii, 1901, 138.

[*Empidonax pusillus*] var. *pusillus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 365.

[*Empidonax traillii.*] Var. *pusillus* COUES, Key N. Am. Birds, 1872, 175.

Empidonax traillii . . . var. *pusillus* COUES, Check List, 1873, no. 257*a*.

Empidonax traili . . . var. *pusillus* HENSHAW, Zool. Exp. W. 100th Merid., 1875, 356 (localities in Nevada, Utah, Colorado, and Arizona; habits, etc.).

[*Empidonax traillii*] b. *pusiltus* COUES, Birds Northwest, 1874, 252.

Empidonax traillii var. *pusillus* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 172 (Salt Lake City, Utah, and Wahsatch Mts., breeding up to 7,000 ft.).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan); Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Tehuantepec City).

Empidonax trailli pusillus MINOT, Bull. Nutt. Orn. Club, v, 1880, 231 (Boulder, Colorado; notes).—COUES, Check List, 2d ed., 1882, no. 386.

[*Pyrocephalus*] *pusillus* GRAY, Hand-list, i, 1869, 361, no. 5490.

Empidonax ridgwayi (not of Sclater, 1887?) ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 144 (Bonda, Santa Marta, Colombia).

EMPIDONAX TRAILLII ALNORUM Brewster.

ALDER FLYCATCHER.

Similar to *E. t. traillii*, but color of upper parts usually more greenish olive, with pileum and hindneck usually decidedly grayer, sometimes in decided contrast with color of back, etc.; wing-bands usually much paler, even the anterior one being usually pale olive-buff or olive-whitish; wing and tail averaging longer, but bill decidedly smaller.

Adult male.—Length (skins), 120–145 (133); wing, 64.5–78 (71.8); tail, 54–62.5 (58.4); exposed culmen, 11–13 (12); tarsus, 15.5–17.5 (16.8); middle toe, 8.5–10.5 (9.5).[a]

[a] Thirty-five specimens.

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Adult female.—Length (skins), 119–143 (130); wing, 64.5–75.5(68.4); tail, 51.5–61.5 (55.4); exposed culmen, 10–12.5 (11.7); tarsus, 15.5–17.5 (16.1); middle toe, 8.5–10 (9.4).[a]

Northeastern North America; breeding from New Jersey (near Plainfield), New England States, Prince Edward Island, New York (Madison County; Catskill Mountains), Ontario, Michigan (Emmet County), Wisconsin, Minnesota, North Dakota (Pembina; Towner County), eastern Montana (Fort Keogh), etc., northward to northern Keewatin (Repulse Bay), Mackenzie (Mackenzie River; Fort Carlton; Fort Simpson; Fort Resolution; Fort Rae; Fort Norman; Fort Good Hope; Hay River), Yukon Territory (Fort Selkirk) and Yukon Valley in Alaska (Circle; near Fort Yukon; Charlie Creek; Tatondu River; Nulato; St. Michael), and southward along Allegheny Mountains at least to Maryland (Allegheny and Garrett counties); west to eastern Montana (Fort Keogh), Alberta (Edmonton), Assiniboia (Indian Head), Athabasca (Slave River) and northeastern British Columbia (Cariboo district); migrating southward through southeastern Mexico (Tehuantepec City and Huilotepec, Oaxaca; La Salada, Michoacan; Merida and Izalam, Yucatan), Nicaragua (Sucuyá; San Carlos; Rio Escondido), Costa Rica (Dota; Talamanca; Juan Viñas; Pozo Azul) and Panama (Boquete; Sabana de Panama; Saboga Island) to Ecuador (Valle del Zamora; Gualaquiza); occasional during migration in southeastern United States (Alexandria County, Virginia, May 13 and 19; Laurel, Maryland, May 18; Leon County, Florida, August 6; etc.).

Empidonax traillii (not *Muscicapa traillii* Audubon) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 193, part; Cat. N. Am. Birds, 1859, no. 140.—SCLATER, Cat. Am. Birds, 1862, 229 (Pennsylvania).—BLAKISTON, Ibis, 1863, 58 (Mackenzie R.).—(?) LAWRENCE, Ann. Lyc. N. Y., viii, 1863, 486 (Panama); ix, 1868, 114 (Dota, Costa Rica); 1869, 201 (Merida, Yucatan).—(?) FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—BAIRD, BREWER, and RIDGWAY, Hist. N.

[a] Twenty-six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from New England States	71.2	58.2	12.2	16.7	9.4
Ten adult males from New Jersey to District of Columbia	71.2	57.1	12	16.8	9.3
Fifteen adult males from Minnesota to eastern Montana (Fort Keogh)	72.8	59.3	11.8	16.6	9.7
FEMALES.					
Eight adult females from New England	67	54	11.8	16.1	9.4
Three adult females from New Jersey to District of Columbia	65.5	55.4	11.7	15.8	9.3
Eleven adult females from North Dakota to eastern Montana	69.7	56.5	12	16.4	9.5
Four adult females from Yukon Valley	69.6	55.6	10.7	15.6	9.4

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Am. Birds, ii, 1874, pl. 44, fig. 8.—PURDIE, Bull. Nutt. Orn. Club, i, 1876, 75 (Lake Umbagog, etc., Maine; descr. nest and eggs).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 4 (Gorham and Milan, New Hampshire; East Bethel, Coventry, and Randolph, Vermont; Williamstown, Massachusetts; Catskill Mts., New York; Winnebago, n. Illinois?; Fort Resolution, and Great Slave Lake, Mackenzie; descr. nest and eggs).

Empidonax trailli SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 226 (Tehuantepec, Oaxaca; San José, Guatemala; Panama; Zamora, Ecuador; Pembina, North Dakota).—COUES, Check List, 2d ed., 1882, no. 385.—SALVIN, Cat. Strickland Coll., 1882, 313 (Pennsylvania).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (Grand Falls and Houlton, Maine).—MERRIAM, Bull. Nutt. Orn. Club, viii, 1883, 244 (Point de Monts, Quebec).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Izalam, Yucatan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves., 1889, 71, part (Tehuantepec City; Merida, Yucatan; San José, Guatemala; Dota, Costa Rica; Sucuyá, Nicaragua; Panama; Ecuador).—SALVADORI and FESTA, Boll. Mus. Zool., etc., xv, no. 362, 1899, 13 (Valle del Zamora and Gualaquiza, e. Ecuador, Nov., Dec.).

E[mpidonax] traillii CABANIS and HEINE, Mus. Hein., ii, 1859, 70.

[*Empidonax*] *trailli* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.

E[mpidonax] trailli COUES, Key N. Am. Birds, 2d ed., 1884, 441.

Empidonax pusillus, var. *trailli* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 369, part.

Empidonax pusillus trailli BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 177 (Upton, Maine; descr. young).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 325*a*.—MERRIAM, Bull. Nutt. Orn. Club, vi, 1881, 231 (Adirondack region, New York).

Empidonax pusillus traillii RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 186; Nom. N. Am. Birds, 1881, no. 325*a*.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 466*a*.—FAXON and ALLEN, Auk, v, 1888, 151 (Franconia, New Hampshire).—PALMER (W.), Auk, vi, 1889, 71 (Alexandria Co., Virginia, 2 specs., May 13 and 19, 1888; Laurel, Maryland, 1 spec., May 18, 1888).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 506 (Rio Escondido and San Carlos, Nicaragua).—DWIGHT, Auk, x, 1893, 10 (Prince Edward Island).—BENDIRE, Life Hist, Birds N. Am., ii, 1895, 310, pl. 2, fig. 30 (egg).

E[mpidonax] pusillus traillii RIDGWAY, Man. N. Am. Birds, 1887, 343.

[*Pyrocephalus*] *traillii* GRAY, Hand-list, i, 1869, 362, no. 5515 (excl. syn. "*virens* Aud[ubon]").

(?)*Empidonax pusillus* (not *Tyrannula pusilla* Swainson) GUNDLACH, Journ. für. Orn., 1861, 410 (Cuba; crit.).

Empidonax traillii alnorum BREWSTER, Auk, xii, Apr., 1895, 161 (Upton, Maine; coll. W. Brewster).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 466*a*.—MILLER (W. D. W.), Auk, xviii, 1901, 108 (near Plainfield, New Jersey, breeding); xx, 1903, 68 (do.; notes).—HOWELL, Auk, xviii, 1901, 341 (Mount Mansfield, Vermont).—FARLEY, Auk, xviii, 1901, 347–355 (habits, etc., in Massachusetts).—EMBODY, Birds Madison Co., New York, 1901, 20 (breeding).—PREBLE, North Am. Fauna, no. 22, 1902, 114 (Norway House and Echimamish R., Keewatin).—ALLEN (G. M.), Proc. Manchester Inst. Arts and Sci., iv, 1902, 121 (New Hampshire, up to 1,500 ft.; habits).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 39 (Boquete, Panama, 4,000 ft., Apr. 10).—ALLEN (F. H.), Auk, xix, 1902, 84, 85 (song-notes, etc.).—WIDMANN, Auk, xix, 1902, 234 (Emmett Co., Michigan, July).—BROOKS, Auk, xx, 1903, 282 (Cariboo district, British Columbia; crit.).—WILLIAMS, Auk, xxi, 1904, 457 (Leon Co., Florida, 1 spec., Aug. 6).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 153 (Saboga I., Panama, Apr.); xlvi, 1906, 219 (Sabana de Panama, May 2–6).

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E[mpidonax] traillii alnorum RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 343.

E[mpidonax] t[raillii] alnorum BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 261.

Empidonax trailli alnorum BISHOP, N. Am. Fauna, no. 19, 1900, 80 (Fort Selkirk to Circle and 15 m. below Fort Yukon, Alaska; crit.).

E[mpidonax] trailli alnorum COUES, Key N. Am. Birds, 5th ed., i, 1903, 529.

[*Empidonax*] *alnorum* SHARPE, Hand-list, iii, 1901, 138.

Empidonax alnorum EIFRIG, Auk, xxi, Apr., 1904, 242 (Allegany and Garrett counties, Maryland, breeding).

Empidonax pusillus (not of Baird, ex *Platyrhynchus pusillus* Swainson) BLAKISTON, Ibis, 1862, 4 (Forks of Saskatchewan); 1863, 58 (Fort Carlton, Mackenzie R.).—NELSON, Nat. Hist. Coll. Alaska, 1887, 162, part (Nulato; St. Michael).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 225, part (Fort Simpson, Mackenzie; Repulse Bay, Keewatin).

(?) *Empidonax ridgwayi* SCLATER,[a] Proc. Zool. Soc. Lond., 1887, 50 (Bogota, Colombia; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 227.

(?) [*Empidonax*] *ridgwayi* SHARPE, Hand-list, iii, 1901, 138.

EMPIDONAX MINIMUS (Baird).

LEAST FLYCATCHER.

Closely similar in coloration to *E. traillii alnorum*, but decidedly smaller, and tail emarginate instead of even or slightly rounded.

Adults (sexes alike).—Above plain brownish olive, the feathers of pileum darker centrally; tail grayish brown, the rectrices passing into light brownish olive on edges; wings dusky, the middle and greater coverts broadly tipped with pale grayish brown or brownish gray, sometimes nearly white on tips of greater coverts, forming two distinct bands; the secondaries edged (except basally) with the same or with dull yellowish white; a broad dull white or yellowish white orbital ring; lores dull whitish suffused with dusky, especially near anterior angle of eye; rest of side of head and sides of neck similar in color to upper parts, gradually fading below into dull white or grayish yellowish white of chin and throat; rest of under parts dull white, more or less tinged with pale (primrose) yellow posteriorly, the chest and sides more or less strongly shaded with pale grayish brown or brownish gray, this deepest on sides of chest and sides of breast; axillars and under wing-coverts very pale yellow or yellowish white; inner webs of remiges edged with pale dull buffy or dull buffy white; maxilla dusky brown, mandible pale brownish; iris brown; legs and feet blackish brown or brownish black.

Young.—Similar to adults, but wing-bands dull buff, and gray of chest and sides more brownish.

[a] I have not been able to examine in this connection the type of this supposed species, but the principal character ("outer web of the exterior rectrix white") is one which occasionally occurs in *E. traillii alnorum*.

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Adult male.—Length (skins), 109–133 (120); wing, 59–67 (64.2); tail, 50.5–58 (54.3); exposed culmen, 10–11.5 (10.7); tarsus, 15–17 (16.2); middle toe, 7.5–8.5 (8.1).[a]

Adult female.—Length (skins), 115–124 (118); wing, 59.5–64.5(60.9); tail, 51–56.5 (52.5) exposed; culmen, 10–11 (10.5); tarsus, 15.5–17 (16); middle toe, 7.5–9 (8.3).[b]

Eastern North America; north to Prince Edward Island, Maine, southern Labrador?, south end of Hudson Bay (Moose Factory), Keewatin (south end of Oxford Lake,) Mackenzie (Fort Simpson; Fort Resolution; Fort Providence; Fort Norman; Hay River), Manitoba (Fort Garry; Lake Manitoba; lower Saskatchewan), etc., west to eastern base of Rocky Mountains, in Athabasca (Slave River; Smith Landing; Fort Chippewayan; Fort McMurry; Grand Rapid), Montana (Fort Custer, May 11–18; Bear Creek; Fort Keogh), Wyoming (Black Hills, breeding), Colorado (Denver; Colorado Springs; Springfield, etc.) and Western Texas (San Angelo, breeding?; Bonham, breeding?; Kendall Co., May 14; San Antonio, April); breeding southward to New Jersey (Camden), Pennsylvania (Delaware, Crawford, Erie, Indiana, Clearfield, McKean, Blair, Cambria, Luzerne, Sullivan, Bradford, and Elk counties), northern Indiana (Lake, Dekalb, and Carroll counties), south-central Iowa (Decatur and Mahaska counties), southeastern South Dakota, eastern Wyoming (Black Hills), etc., and along Allegheny Mountains to North Carolina (at 2,000 to 4,000 ft. alt.); said to breed also at San Angelo, Tom Green County, central Texas, and Bonham, Fannin County, northeastern Texas; in winter south through eastern Mexico, in States of Tamaulipas (Alta Mira), Nuevo Leon (Mier), San Luis Potosi (Valles), Vera Cruz (Papantla; Orizaba; Jalapa; Mirador; Teocelo; Jaltipan; Coatzocoalcos; Chichicaxtla), Puebla (Metlaltoyuca; Tuxtepec; Tehuacan; Piextla), Mexico (north slope Volcan de Toluca), Michoacan (La Salada), Guerrero (Acapulco), Oaxaca (Cuicatlan; Guichicovi; Chihuitan; Huajuapam; Santa Efigenia; Japana; Tehuantepec City), Tabasco (Frontera), Campeche (Apazote; Yohaltun),

[a] Eighteen specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Atlantic States	64.3	54.2	10.9	16.2	8
Eight adult males from Mississippi Valley	63.9	54.3	10.5	16.1	8.1
Three adult males from eastern Montana (Fort Keogh)	65	54.8	10.5	16.5	8.2
FEMALES.					
Four adult females from Atlantic States	60.9	52.4	10.7	15.7	7.9
Four adult females from Mississippi Valley	60.4	51.8	10.2	16	8.4
Two adult females from eastern Montana (Fort Keogh)	62	54.5	10.5	16.5	9

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Yucatan (Merida; Chichen-Itza; Holbox, Mujeres, and Cozumel islands), and Chiapas (Huehuetan; Yajalon; Tonalá; Gineta Mountains; Tuxtla Gutierrez; San Bartolemé; Comitan), and Territory of Tepic (Tepic), Guatemala (Gualan; Nenton; Rio Managua; Dueñas; Coban), British Honduras (Belize), Honduras (coast), Costa Rica (San José), and Panama (David; Lion Hill), and also to northern Peru (Tambillo; Guajano); accidental during migration on island of Grand Cayman (south of Cuba).

(?) [*Muscicapa*] *acadica* GMELIN, Syst. Nat., i, 1788, 947 (Nova Scotia; based on *Lesser Crested Flycatcher* Pennant, Arctic Zool., ii, 386).—LATHAM, Index Orn., ii, 1790, 489.

(?) *Muscicapa acadica* VIEILLOT, Ois. Am. Sept., i, 1807, 71.

Muscicapa acadica (not of Gmelin ?) NUTTALL, Man. Orn. U. S. and Can., i, 1832, 288.

(?) *Tyrannula pusilla* (not *Platyrhynchus pusillus* Swainson, 1827?) SWAINSON Fauna Bor.-Am., ii, 1831, 144, pl. 46.

(?) *Muscicapa pusilla* AUDUBON, Orn. Biog., v, 1839, 288, part, pl. 434; Synopsis, 1839, 44; Birds Am., oct. ed., i, 1840, 236, pl. 66 ("Labrador;" "Newfoundland").

Tyrannula minima BAIRD (WM. M. and S. F.), Proc. Ac. Nat. Sci. Philad., i, July, 1843, 284 (Carlisle, Pennsylvania; type now in coll. U. S. Nat. Mus.); Am. Journ. Sci. and Arts, xlvi, 1846, 275; in Stansbury's Rep. Gt. Salt Lake, 1852, 329.

T[yrannula] minima BONAPARTE, Consp. Av., i, 1850, 190.

Muscicapa minima AUDUBON, Birds Am., oct. ed., vii, 1844, 343, pl. 491.

Empidonax minimus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 195; Cat. N. Am. Birds, 1859, no. 142.—SCLATER, Proc. Zool. Soc. Lond., 1859, 384 (Playa Vicente, Vera Cruz); Ibis, 1859, 441 (Orizaba and Playa Vicente, Vera Cruz; Talea, Oaxaca); Cat. Am. Birds, 1862, 229 (Coban and Dueñas, Guatemala, etc.); Cat. Birds Brit. Mus., xiv, 1888, 227, part (excl. specimens from Volcan de Fuego, Guatemala).—SCLATER and SALVIN, Ibis, 1859, 122 (Dueñas, Guatemala; Belize, British Honduras); Proc. Zool. Soc. Lond., 1870, 837 (coast Honduras).—BLAKISTON, Ibis, 1863, 58 (Mackenzie, R.).—DRESSER, Ibis, 1865, 474 (San Antonio, Texas).—TRIPPE, Proc. Bost. Soc. N. H., xv, 1872, 234 (Decatur and Mahaska counties, s. Iowa, breeding).—COUES, Check List, 1873, no. 258; 2d ed., 1882, no. 387; Birds Northwest, 1874, 254.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 372, pl. 44. fig. 10; iii, 1874, 519 (El Paso Co., Colorado).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Chihuitan, Santa Efigenia, Tapana, Guichicovi, and Tehuantepec City, Oaxaca; Gineta Mts., Chiapas).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 178 (descr. young); Auk, iii, 1886, 106 (mountains w. North Carolina, breeding at 2,000 to 4,000 ft.).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 6 (descr. nest and eggs).—HAYWARD, Bull. Nutt. Orn. Club, iv, 1879, 124 (descr. spotted eggs).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1879, 235 (Guajano and Tambillo, n. Peru); Orn. du Pérou, ii, 1884, 315.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 326; Ibis, 1886, 465; Orn. Illinois, i, 1889, 354.—SALVIN, Cat. Strickland Coll., 1882, 313 (Pennsylvania); Ibis, 1889, 361 (Holbox, Mujeres, and Cozumel islands, Yucatan; crit.).—RHOADS, Bull. Nutt. Orn. Club, vii, 1882, 55 (Delaware Co., Pennsylvania, and Camden, New Jersey, breeding).)—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (Grand Falls and Mount Fairfield, Maine).—ALLEN and BREWSTER, Bull.

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Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—BICKNELL, Auk, ii, 1885, 256 (notes).—AGERSBORG, Auk, ii, 1885, 283 (s. e. South Dakota, breeding).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 242 (Moose Factory, Hudson Bay; Labrador).—RIVES, Auk, iii, 1886, 160 (Giles Co., Virginia, 4,500 ft., June).—SETON, Auk, iii, 1886, 321 (Lake Manitoba, etc., breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 467.—COOKE, Bird Migr. Miss. Val., 1888, 154 (said to breed at San Angelo and Bonham, Texas).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 72.—WARREN (B. H.), Birds Pennsylvania, 1890, 197 (breeding in Crawford, Erie, McKean, and Cambria counties).—DWIGHT, Auk, ix, 1892, 136 (Blair, Cambria, Luzerne, Sullivan, and Bradford counties, Pennsylvania, breeding); x, 1893, 10 (Prince Edward I.).—TODD, Auk, x, 1893, 39, 44 (Indiana and Clearfield counties, Pennsylvania, breeding); Ann. Carnegie Mus., ii, 1904, 564 (Erie Co., Pennsylvania, breeding).—RICHMOND and KNOWLTON, Auk, xi, 1894, 304 (Bear Creek, s.-centr. Montana (1 spec., Aug. 13).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 312, pl. 2, fig. 31.—THORNE, Auk, xii, 1895, 215 (Fort Keogh, Montana, up to May 31).—YOUNG, Auk, xiii, 1896, 282 (Hamburg, Pennsylvania, breeding).—BAILY, Auk, xiii, 1896, 293 (Elk Co., Pennsylvania, breeding).—BUTLER, Birds Indiana, 1897, 871 (breeding in Lake, Dekalb, and Carroll counties).—EMBODY, Birds Madison County, New York, 1901, 20 (breeding).—CARY, Auk, xviii, 1901, 235 (Black Hills, Wyoming, common, breeding; descr. nest and eggs).—BANGS, Auk, xviii, 1901, 363 (David, Panama, Oct.).—PREBLE, North Am. Fauna, no. 22, 1902, 114 (s. end of Oxford Lake, Keewatin, breeding; crit.).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 261.—EIFRIG, Auk, xxi, 1904, 242 (Allegany and Garrett counties, Maryland, breeding).—NICOLL, Ibis, 1904, 582 (Grand Cayman I., 1 spec.); Bull. Brit. Orn. Union, xv, 1905, 95 (Grand Cayman).—WARREN (E. R.)., Condor, viii, 1906, 20 (Springfield, s. e. Colorado, May 13).

Empidonax minima BOUCARD, Proc. U. S. Nat. Mus., 1883, 448 (Merida, Yucatan).

[*Empidonax*] *minimus* COUES, Key N. Am. Birds, 1872, 175.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 138.

E[*mpidonax*] *minimus* COUES, Key N. Am. Birds, 2d ed.,1884, 442; 5th ed., i, 1903, 530.—RIDGWAY, Man. N. Am. Birds, 1887, 343.

[*Empidonax minimus*] var. *minimus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 364.

[*Pyrocephalus*] *minimus* GRAY, Hand-list, i, 1869, 361, no. 5491.

(?) *Empidonax hammondi* (not *Tyrannula hammondii* Xantus) FRAZAR, Bull. Nutt. Orn. Club., v. 1880, 184 (Vermilion, South Dakota, breeding).—AGERSBORG, Auk, ii, 1885, 283 (s. e. South Dakota, breeding).—THORNE, Auk, xii, 1895, 215 (Fort Keogh, e. Montana, breeding).

Empidonax pectoralis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, Dec., 1866, 402 (Lion Hill, Panama; coll. G. N. Lawrence).

Empidonax minimus, var. *pectoralis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 364, footnote.

[*Empidonax minimus*] (var.?) *pectoralis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 364.

[*Pyrocephalus*] *pectoralis* GRAY, Hand-list, i, 1869, 361, no. 5504.

Empidonax gracilis RIDGWAY, Descr. New Sp. Birds Cozumel, Feb. 26, 1885, 3 (Cozumel I., Yucatan; coll. U. S. Nat. Mus.); Proc. Biol. Soc. Washington iii, 1885, 23; Proc. U. S. Nat. Mus., viii, 1885, 571.

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EMPIDONAX HAMMONDII (Xantus).

HAMMOND'S FLYCATCHER.

Similar to *E. minimus*, but wing, tail, and middle toe much longer, bill much narrower, and coloration of under parts darker and more uniform. Similar, also, to *E. wrightii*, but wing-formula very different (tenth primary longer than fifth, instead of shorter), bill much smaller, tail averaging decidedly shorter (but wing slightly longer), tarsus decidedly shorter, and coloration of under parts more uniform.

Adults (*sexes alike*), *white-bellied phase.*[a]—Pileum and hindneck dull deep brownish gray (nearly mouse gray), the back, scapulars, lesser wing-coverts, rump, and upper tail-coverts similar, but decidedly more olive; tail deep grayish brown, the outer webs of rectrices passing into light grayish olive or olive-gray on edges, the outer web of lateral rectrix pale olive-grayish; primaries deep grayish brown, narrowly and indistinctly edged with lighter grayish; middle and greater coverts dusky, broadly tipped with pale gray or dull grayish white (forming two distinct bands); secondaries dusky edged (except basally) with dull whitish; an orbital ring of dull white, broader posteriorly and below; lores grayish white anteriorly, largely (sometimes mostly) dusky posteriorly; rest of sides of head and sides of neck similar in color to pileum and hindneck, but slightly paler, gradually fading below into the dull grayish white of median portion of chin and throat; chest and sides of breast pale gray, gradually fading on sides and flanks; rest of under parts dull white, yellowish white, or very pale primrose yellow; axillars and under wing-coverts pale primrose yellow or yellowish white, the feathers pale grayish basally; inner webs of remiges edged with pale grayish buffy; maxilla brownish black or blackish brown, mandible pale brownish (more or less deep); iris brown; legs and feet blackish brown or brownish black.

Adults, yellow-bellied phase.—Similar to the whitish bellied phase, but more olivaceous (sometimes brownish olive) above, chest and sides of breast olive or buffy olive, and abdomen, etc., primrose or sulphur yellow.

Young.—Essentially like whitish-bellied adults, but color of upper parts grayish brown, rather than olive, wing-bands light buffy, and marginal under wing-coverts buffy.

Adult male.—Length (skins), 120–135 (124); wing, 68–74 (71.3); tail, 55–61 (57.9); exposed culmen, 10–11 (10.7); tarsus, 15.5–17.5 (16.2); middle toe, 9–10 (9.2).[b]

[a] As in *E. wrightii*, the two color phases of this species seem to be mainly independent of season. A majority of specimens do not represent either phase in its extreme differentiation, but are variously intermediate.

[b] Twelve specimens.

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Adult female.—Length (skins), 115–131 (123); wing, 64.5–70 (67.9); tail, 52.5–57 (55.1); exposed culmen, 9.5–11 (10.3); tarsus, 15–16 (15.7); middle toe, 8.5–9 (8.7).[a]

Breeding in mountains of western North America (in Transition and Canadian life-zones), north to southeastern Alaska (Skagway; White Pass; Glacier; 15 miles below Selwyn River, and thence to Yukon Valley (Alaska and Northwest Territory) and southwestern Athabasca (Little Slave Lake), south to Colorado and California (Calaveras County; Ventura County?), probably also to northern New Mexico and Arizona;[b] in migration southward through Mexican States of Sonora (San José Mountains), Chihuahua (Sierra Madre, near Guachochi and near Guadalupe y Calvo; Colonia Garcia), Nuevo Leon (Monterey), Zacatecas (Plateado; Sierra de Valparaiso), Durango (Chacala), Jalisco (Bolaños; San Sebastian; Jacala; La Laguna; Barranca Ibarra), Morelos (Huitzilac), Michoacan (Mount Tancitaro), Puebla (Huachinango; Mount Orizaba), Vera Cruz (Orizaba; Mirador), and Chiapas (San Cristobal; Gineta Mountains), to highlands of Guatemala (Volcan de Santa Maria; Calderas).

Tyrannula hammondii XANTUS, Proc. Ac. Nat. Sci. Phila. x, 1858, 117 (Fort Tejon, s. California; coll. U. S. Nat. Mus.).

Empidonax hammondii BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 199; ed. 1860 ("Birds N. Am."), 199, pl. 76, fig. 1; Cat. N. Am. Birds, 1859, no. 145.—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 62 (Fort Whipple, Arizona); Check List, 1873, no. 260; Birds Northwest, 1874, 257.—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—COOPER, Orn. Calif., 1870, 330.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 44, fig. 7.—HENSHAW, Rep. Orn. Spec. Wheeler's Survey, 1874, 127 (Apache and Gila R., Arizona, Sept.; Bayard, New Mexico, Sept.; measurements).—JOUY, Proc. U. S. Nat. Mus., xvi, 1893, 783 (Barranca Ibarra, Jalisco).

[*Empidonax*] *hammondii* COUES, Key N. Am. Birds, 1872, 176.

Empidonax hammondi SCLATER, Cat. Am. Birds, 1862, 230 (Northwest Boundary U. S.); Cat. Birds Brit. Mus., xiv, 1888, 232.—RIDGWAY, Bull. Essex Inst., v, 1873, 184 (Colorado); vii, 1875, 22 (East Humboldt Mts., Nevada); Orn. 40th Parallel, 1877, 543 (East Humboldt Mts.); Nom. N. Am. Birds, 1881, no. 327; Ibis, 1886, 467.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 383.—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 362 (Rio Grande, New Mexico, June; localities in Utah, New Mexico, and Arizona, Sept., Oct.).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Gineta Mts., Chiapas).—BELDING, Proc. U. S. Nat. Mus., i, 1878, 426 (Calaveras Co., California, breeding in pines; Stockton in migration).—BREWER, Proc. U. S. Nat.

[a] Seven specimens.

[b] Extreme eastern alleged breeding records are Fort Keogh, eastern Montana (Thorne, Auk, xii, 1895, 215), and Vermilion, southeastern South Dakota (Frazar, Bull. Nutt. Orn. Club, v, 1880, 184; Agersborg, Auk, ii, 1885, 283). Both these localities are on the Great Plains, a country exceedingly different from that in which the species is certainly known to breed, and there is probably an error in these records. Doubtless the error is one of identification; for the young bird referred to by Captain Thorne, now (with the rest of his collection) in the U. S. National Museum, is *E. minimus* and not *E. hammondii*. Probably all these records pertain to *E. minimus*.

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Mus., ii, 1879, 1 (descr. eggs from Blue R., Colorado and Anderson R., Mackenzie).—(??) FRAZAR, Bull. Nutt. Orn. Club, v, 1880, 184 ("Dakota"; descr. nest and eggs).—MINOT, Bull. Nutt. Orn. Club, v. 1880, 231 (Colorado; notes).—COUES, Check List, 2d ed., 1882, no. 390.—BREWSTER, Bull. Nutt. Orn. Club. vii, 1882, 206 (Tombstone, Tucson, and Santa Rita Mts., Arizona; crit.).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—DREW, Auk, ii, 1885, 15 (Colorado breeding from plains to 8,000 ft.).—EVERMANN, Auk, iii, 1886, 180 (Ventura Co., California, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 468.—SCOTT, Auk, iv, 1887, 19 (Santa Catalina Mts., Arizona; migr.).—COOKE, Bird Migr. Miss. Val., 1888, 155 (Vermilion, South Dakota, rare summer resident;[a] Tom Green and Concho counties, w. Texas; migr.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 76 (Sierra de Valparaiso, Zacatecas; Calderas, 7,500 ft., and Volcan de Fuego, 10,000 to 12,000 ft., Guatemala).—RICHMOND and KNOWLTON, Auk, xi, 1894, 304 (Squaw Creek, Montana, Aug.).—(??) THORNE, Auk, xii, 1895, 215 (Fort Keogh, Montana, breeding[a]).—BENDIRE Life Hist. N. Am. Birds, ii, 1895, 315, pl. 2, fig. 32 (egg).—MERRILL, Auk, xiv, 1897, 355 (Fort Sherman, Idaho, breeding; habits; descr. nest and eggs).—BISHOP, North Am. Fauna, no. 19, 1900, 80 (Skagway, Glacier, Caribou Crossing, 15 m. below Selwyn R., and thence to Circle, Alaska).—RATHBUN (S. F.), Auk, xix, 1902, 136 (Seattle, Washington, breeding).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 262.

Empidonax "hammondi" ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Utah; Wyoming).

E[mpidonax] hammondi COUES, Key N. Am. Birds, 2d ed., 1884, 443; 5th ed., i, 1903, 531.—RIDGWAY, Man. N. Am. Birds, 1887, 344.

[*Empidonax*] *hammondi* SHARPE, Hand-list, iii, 1901, 139.

[*Pyrocephalus*] *hammondii* GRAY, Hand-list, i, 1869, 361, no. 5499.

Empidonax minimus (not of Baird) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 228, part (Volcan de Fuego, Guatemala).

EMPIDONAX WRIGHTII Baird.

WRIGHT'S FLYCATCHER.

Similar to *E. hammondii*, but outermost (tenth) primary shorter than fifth, instead of longer; bill much longer; tail and tarsus longer (but wing averaging shorter), and coloration of anterior under parts paler and less uniform.

Adults (sexes alike).—Above plain olive, the pileum and hindneck slightly grayer (or less brownish); tail deep grayish brown, the outer webs of rectrices passing into olive on edges, the outer web of lateral rectrix dull white or yellowish white; wings dusky, the middle and greater coverts rather broadly tipped with pale grayish brown, pale buffy olive, or grayish buff (forming two distinct bands), the secondaries edged (except basally) with the same or dull whitish; a broad but not very distinct orbital ring of dull white, much narrower and sometimes interrupted on upper eyelid; lores mixed dull white and dusky; rest of sides of head and sides of neck similar in color to upper parts but more or less paler, gradually fading below into the

[a] Probably an error, the species being doubtless *E. minimus*.

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dull white or very pale yellowish of chin and throat; chest and sides pale olive or pale yellowish buffy gray, fading toward flanks; rest of under parts varying from yellowish white to pale (primrose) yellow;[a] axillars and under wing-coverts yellowish white to primrose yellow; inner webs of remiges edged with very pale grayish buff; maxilla dusky brown, deepening into brownish black terminally; mandible usually more or less extensively pale basally (sometimes wholly so), dusky terminally—rarely entirely brown;[b] iris brown; legs and feet brownish black or blackish brown.

Young.—Essentially like adults, but wing-bands more pronouncedly buffy, pileum and hindneck grayer, and under parts more whitish.

Adult male.—Length (skins), 123–136 (129); wing, 65.5–72.5 (69.5); tail, 59–66.5 (62.6); exposed culmen, 11.5–13 (12); tarsus, 17.5–19 (18.2); middle toe 9–10 (9.3).[c]

Adult female.—Length (skins), 124–137 (130); wing, 63–73 (67.4); tail, 57.5–66.5 (60.6); exposed culmen, 11.5–12.5 (11.9); tarsus, 17–19 (18.2); middle toe, 8.5–10 (9.4).[c]

Western United States, breeding, in Transition and Canadian life-zones, south to southern Arizona (Huachuca Mountains) and New Mexico (San Miguel County; Apache, Grant County), north to Oregon (Fort Klamath; Des Chutes River; Narrows), Idaho, and Montana (Columbia Falls), east to main range of Rocky Mountains; in winter, southern California (Panamint Valley; Death Valley; San Buenaventura, etc.), and southward through Mexican States of Sonora (Micoba), Chihuahua (Casas Grandes), Nuevo Leon (Monterey), Durango (Chacala; Durango City), Jalisco (Atenguillo; San Sebastian; Bolaños; Ocotlan; Barranca Ibarra), Zacatecas (Hacienda San Juan Capistrano), Guanajuato, San Luis Potosí (San Luis Potosí; Soledad), Puebla (Chalchicomula; Tlalcotalpan), Vera Cruz (Orizaba), Mexico (Chimalpa; Coapa; Hacienda Eslava; Mexicalcingo; Tetelco; Alixco; Amacameca), Morelos (Yecapixtla), Tlaxcala (Apixaco), and Michoacan (Morelia; near Ahuacan; Zamora; Los Reyes) to Guerrero (Amula; Omilteme) and Oaxaca (La Parada; Cuicatlan; Reyes).

Empidonax obscurus (not *Tyrannula obscura* Swainson[d]) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 200 (El Paso, Texas); Cat. N. Am. Birds, 1859, no. 146; Rep.

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[a] While strongly yellowish examples of this species are apparently more common in autumn and winter, they are almost equally so in spring and summer, and I am convinced that, as in *E. hammondii*, the two phases are really a sort of dichromatism.

[b] The variation in the color of the mandible in this species is very great, more so, apparently, than in any other form.

[c] Ten specimens.

[d] Philos. Mag., n. s., i, 1827, 367 (Mexico). Doubtless an *Empidonax*, but the species unidentifiable. (See Baird, Rep. Pacific R. R. Surv., ix, 1858, 200; Brewster, Auk, vi, 1889, 89.)

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U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 9, pl. 11, fig. 3 (El Paso); Birds N. Am., 1860, 200, pl. 49, fig. 3.—SCLATER, Proc. Zool. Soc. Lond., 1862, 19 (La Parada, Oaxaca); Cat. Am. Birds, 1862, 230 (La Parada); Cat. Birds Brit. Mus., xiv, 1888, 232, part (Durango City, Durango, etc.; includes *E. fulvipectus*).—COUES, Proc. Ac. Nat. Sci. Philad., 1866, 62 (Fort Whipple, Arizona); Check List, 1873, no. 261; 2d ed., 1882, no. 391; Birds Northwest, 1874, 258.—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—COOPER, Orn. Cal., i, 1870, 329.—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Colorado; Utah).—RIDGWAY, Bull. Essex Inst., v, 1873, 184 (Colorado); Orn. 40th Parallel, 1877, 541 (localities in Nevada and Utah; breeding in Toyabe, Wahsatch, and Uintah Mts.; habits); Nom. N. Am. Birds, 1881, no. 328.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 381, pl. 44, fig. 6; iii, 1874, 520 (San Buenaventura, California, winter).—HENSHAW, Rep. Orn. Spec. Wheeler's Survey, 1873 (1874), 66, 87, 127 (Denver and Fort Garland, Colorado, Wingate and Inscription Rock, New Mexico, Apache, Arizona, etc.); 1876, 255 (Mount Whitney, California, Sept.); Zool. Exp. W. 100th Merid., 1875, 361 (localities in Nevada, Utah, Colorado, New Mexico, and Arizona; habits).—BELDING, Proc. U. S. Nat. Mus., i, 1878, 426 (Murphy's and Big Trees, Calaveras Co., California).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 1 (descr. eggs from Dodge Valley, etc., Utah, Arizona, and Nevada).—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 206 (Tombstone, Arizona; crit.); Auk, v, 1888, 258 (Fort Klamath, Oregon; crit.).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 95 (Twin Lakes, Colorado, breeding); Auk, iv, 1887, 19 (Santa Catalina Mts., Arizona, May, Aug.).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—DREW, Auk, ii, 1885, 15 (Colorado, breeding at 7,500 to 10,500 ft.).—LOWE, Auk, xi, 1894, 268 (Wet Mts., Colorado, breeding at 7,500 to 9,000 ft.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 469.—MERRILL, Auk, v, 1888, 258 (Fort Klamath, Oregon; descr. nests, etc.).—COOKE, Bird Migr. Miss. Val., 1888, 155 (Tom Green Co., Texas, autumn).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 77.

[*Empidonax*] *obscurus* COUES, Key N. Am. Birds, 1872, 176.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.—SHARPE, Hand-list, iii, 1901, 140.

E[mpidonax] obscurus COUES, Key N. Am. Birds, 2d ed., 1884, 443.—RIDGWAY, Man. N. Am. Birds, 1887, 344.

E[mpidonax] wrightii BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 200, in text (El Paso, Texas; coll. U. S. Nat. Mus.).—BREWSTER, Auk, vi, 1889, 89 (crit.).

Empidonax wrightii JOUY, Proc. U. S. Nat. Mus., xvi, 1893, 783 (Soledad, San Luis Potosi; Barranca Ibarra, Jalisco).—FISHER, North Am. Fauna, no. 7, 1893, 65 (Panamint Valley, s. e., California, Jan.; Furnace Creek, Death Valley, Feb.).—RICHMOND and KNOWLTON, Auk, xi, 1894, 304 (s. centr. Montana, breeding).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 318, pl. 2, fig. 33 (egg).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 469.—MITCHELL, Auk, xv, 1898, 309 (San Miguel Co., New Mexico, breeding up to 9,000 ft.).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 262.

E[mpidonax] wrightii RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 344.

Empidonax wrighti MAILLIARD, Condor, iii, 1901, 124 (San Benito Co., California, 1 spec., Apr.).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 26 (Huachuca Mts., Arizona, breeding).

E[mpidonax] wrighti COUES, Key N. Am. Birds, 5th ed., i, 1903, 532.

[*Pyrocephalus*] *wrightii* GRAY, Hand-list, i, 1869, 361, no. 5500.

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EMPIDONAX GRISEUS Brewster.

GRAY FLYCATCHER.

Similar to *E. wrightii*, but wing averaging decidedly longer, tail shorter, bill longer and relatively narrower, and coloration much grayer above.

Adults (sexes alike) in spring and summer.[a]—Above plain grayish olive or olive-gray, more decidedly gray on neck; tail deep grayish brown, the outer webs of rectrices passing into grayish olive or olive-gray on edges, the outer web of lateral rectrix dull white or grayish white; wings deep grayish brown, the middle and greater coverts rather broadly tipped with pale gray (sometimes grayish white on secondary coverts), forming two distinct bands, the secondaries edged (except basally) with grayish white; primaries and greater coverts narrowly edged with pale gray; an orbital ring of dull white; lores dull white, intermixed with dusky; rest of sides of head and sides of neck similar in color to upper parts, but paler and (especially sides of neck) grayer, gradually fading below into grayish white on chin and throat; chest and sides of breast pale brownish gray, gradually fading out on flanks; rest of under parts white, usually faintly tinged with primrose yellow; axillars and under wing-coverts yellowish white or pale primrose yellow; inner webs of remiges edged with very pale grayish buffy; maxilla brownish black or blackish brown; mandible pale brownish (pinkish or lilaceous in life?) usually with terminal portion more or less extensively dusky; iris brown; legs and feet brownish black or blackish brown.

Adults in autumn and winter.[b]—Similar to the spring and summer plumage, but upper parts more decidedly olive and white of under parts replaced by pale primrose yellow.

Young.—Similar to spring and summer adults, but wing-bands pale buff instead of gray or grayish white; upper parts brownish gray or grayish brown rather than olive; gray of chest more brownish, and white of under parts tinged with pale brownish buff.

Adult male.—Length (skins), 125–142 (133); wing, 68.5–76.5 (72.6); tail, 57.5–64 (60.8); exposed culmen, 12–13.5 (12.9); tarsus, 17–20.5 (18.3); middle toe, 8.5–10 (9.5).[c]

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[a] While the two phases of coloration (the one with lower parts white and that with under parts primrose yellow) are no more different in this form than in *E. wrightii*, they seem to be mainly seasonal, a large majority of those which are white, or very faintly tinged with yellow beneath, being spring and summer birds while those decidedly yellowish beneath were nearly all obtained in autumn or winter.

[b] Specimens in this plumage are occasionally taken at other seasons, and vice versa.

[c] Eighteen specimens.

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Adult female.—Length (skins), 124–136 (131); wing, 66–74.5 (69.1); tail, 56.5–62 (58.9); exposed culmen, 10.5–13 (12.9); tarsus, 16.5–19 (18.8); middle toe, 8.5–9.5 (9.1).[a]

Breeding in Southern California (mountains of Los Angeles and San Bernardino counties, probably also of San Diego and other contiguous counties) and southern Arizona (Huachuca Mountains; Apache; Tucson; Wilcox; Adonde; 7 miles south of Bisbee; Palmerlee, Cochise County; Grand Canyon), southern New Mexico (100 miles west of El Paso, Tex.; Apache, Grant County), and highlands of northern and central Mexico; south (at least during migration) through Mexican States of Chihuahua (Pacheco), Sonora (Alamos; San Bernardino Ranch), Sinaloa (near Mazatlan; Sinaloa), Jalisco (La Barca; Bolaños), Guanajuato (Silao; Guanajuato), Hidalgo (Tulalcingo; Irolo; Tula), San Luis Potosi (Soledad; San Luis Potosi), Mexico (Mexicalcingo; Ixtapalapa; Culhuacan; Huipulco; Coapa; Chimalpa; Tlalpam), and Puebla (Chalchicomula), and Territory of Tepic (Tepic); also wintering in Lower California (Cape San Lucas; San José del Cabo; La Paz; Triunfo; Comondu; Santa Margarita Island; Espiritu Santo Island; San Pablo; Santa Anita; Mulegé). Colorado, at least casually (New Castle, May 24).

(??) *Tyrannula obscura* SWAINSON, Philos. Mag., n. s., i, 1827, 367 (Mexico; see Brewster, Auk, vi, 1889, 89).

Empidonax obscurus (not of Baird, 1858) BAIRD, Proc. Ac. Nat. Sci. Phila., 1859, 301, 303 (Cape San Lucas).—BELDING, Proc. U. S. Nat. Mus., v, 1882, 542 (La Paz, etc., Lower California).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 292 (Tia Juana, Lower California).

[*Empidonax*] *obscurus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

Empidonax griseus BREWSTER, Descr. Sup. New Birds from Western N. Am. and Mexico, Jan. 31, 1889, 87 (La Paz, Lower California; coll. W. Brewster); Auk, vi, Apr., 1889, 87 (do.); Bull. Mus. Comp. Zool., xli, 1902, 122 (Cape San Lucas district, Oct. to Apr., Santa Margarita I., Feb.; Comondu, Mar.; breeding in s. Arizona and in Mexico).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 292 (La Paz; Triunfo; San José del Cabo).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, vii, 1890, 62; Check List, 2d ed.,

[a] Twenty-two specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Cape San Lucas district	72.6	61.2	12.9	17.9	9.4
Ten adult males from Arizona, New Mexico, and Sonora	72.7	60.4	13	18.6	9.5
FEMALES.					
Twelve adult females from Cape San Lucas district	69	58.5	12.4	17.8	9.1
Two adult females from Arizona and New Mexico	69.2	61	11.5	17.5	9
Eight adult females from Mexico (except Sonora)	69.1	59.1	12.1	18.1	9.2

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1895, no. 469.1.—JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 783 (Soledad, San Luis Potosi).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 320.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599.—GRINNELL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 31 (Los Angeles Co., California, resident; 7,500 to 8,500 ft. in summer, lowlands in fall and winter); Check List Birds Calif., 1902, 44.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 263.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 26 (Huachuca Mts., Arizona, migratory; crit.).

[*Empidonax*] *griseus* SHARPE, Hand-list, iii, 1901, 140.

E[*mpidonax*] *griseus* COUES, Key N. Am. Birds, 5th ed., i, 1903, 532.

Empidonax canescens SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, sig. 10, Feb., 1889, 79 (Mexicalcingo, near City of Mexico; coll. Salvin and Godman).—NELSON, Auk, xxi, 1904, 80 (crit. nomencl.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxi, 1904, 413.—DIXON, Condor, vii, 1905, 139 (Dry Lake, San Bernardino Co., California, breeding; descr. nest and eggs).

[*Empidonax*] *canescens* SHARPE, Hand-list, iii, 1901, 140.

EMPIDONAX PULVERIUS Brewster.

SIERRA MADRE FLYCATCHER.

Most resembling *E. wrightii*, but mandible wholly whitish, wing and tail decidedly longer, bill and tarsus shorter, and in winter plumage with upper parts much more greenish olive and under parts with yellow of abdomen deeper and olive of chest darker.

Adults in breeding plumage (*sexes alike*).—Above plain grayish olive, more or less darker on pileum, lighter on rump and upper tail-coverts; tail deep grayish brown or brownish gray (grayer than hair brown), the outer webs of rectrices passing into light grayish olive on edges, the outer web of lateral rectrix dull white; wings darker grayish brown or brownish slate, the middle and greater coverts broadly tipped with pale brownish gray or slightly buffy gray (forming two conspicuous bands), the secondaries edged (except basally) with the same or dull grayish white, the primaries narrowly edged with the same; a broad orbital ring of dull white or yellowish white, scarcely interrupted on upper eyelid; lores mixed whitish and dusky; rest of sides of head and sides of neck similar in color to back, gradually fading below into very pale yellowish gray or dull grayish white on chin and throat; chest light grayish olive, tinged with oil yellowish, the sides similar but paler, fading posteriorly; rest of under parts pale (primrose) yellow; axillars and under wing-coverts dull primrose yellow, the latter tinged with brownish and dusky on edge of wing; inner webs of remiges broadly edged with very pale brownish buffy; maxilla blackish brown or brownish black, mandible wholly pale (straw yellowish in life) or very rarely tinged with brownish near tip; legs and feet blackish brown or brownish black.

Adults in winter plumage.—Above much more decidedly olive (slightly greenish olive), beneath more extensively and much more deeply yellowish, the whole abdomen, etc., deep primrose or straw

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yellow, the chest and sides strongly buffy olive, and wing-bands more buffy; otherwise essentially as in summer plumage.

Young.—Essentially like adults but duller olive above, with wing-bands dull olive-buff, abdomen, etc., more whitish.

Adult male.—Length (skins), 134–143 (138); wing, 75–81 (77.4); tail 63–69 (66.1); exposed culmen, 11–12.5 (11.9); tarsus, 16.5–17.5 (16.9); middle toe, 9–10 (9.3).[a]

Adult female.—Length (skins), 123–135 (130); wing, 71–73.5 (72.5); tail, 58–64.5 (62); exposed culmen, 11–11.5 (11.4); tarsus, 16.5–17.5 (17); middle toe, 8.5–10 (9.3).[b]

Pine forests of northwestern Mexico, in States of Chihuahua (Piños Altos; Jesus Maria; Durasno; Sierra Madre near Guadalupe y Calvo and near San Julian), Sonora (Tutuaca), Durango (El Salto; Durango City; Cerro Prieto), Zacatecas (Valparaiso Mts., December), and Jalisco (Bolaños, September).

Empidonax pulverius BREWSTER, Descr. Sup. New Birds from Western N. Am. and Mexico, Jan. 31, 1889, 86; Auk, vi, no. 2, Apr., 1889, 86 (Pinos Altos, Chihuahua, Mexico; coll. W. Brewster).—NELSON, Auk, xviii, 1901, 48 (range).

[*Empidonax*] *pulverius* SHARPE, Hand-list, iii, 1901, 139.

Empidonax affinis (not *Tyrannula affinis* Swainson?) SALVIN and GODMAN, Biol. Centr.-Am., Aves ii, 1889, 78, part (Tutuaca, Sonora; Durango City, Durango; Sierra de Valparaiso, Zacatecas).

Empidonax obscurus (not of Baird; not *Tyrannula obscura* Swainson?) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 232, part (Durango City, Durango).

EMPIDONAX FULVIPECTUS Lawrence.[c]

FULVOUS-BREASTED FLYCATCHER.

Similar to *E. pulverius* but wing and tail decidedly shorter, upper parts more brownish olive, and under parts more deeply yellowish; young with wing-bands and edges of secondaries cinnamon-buff instead of pale grayish buff.

Adults in breeding plumage (*sexes alike*).—Above plain olive, slightly tinged with yellowish olive-green on rump and upper tail-

[a] Ten specimens.

[b] Four specimens.

[c] Although Mr. Salvin has stated (Cat. Birds Strickland Coll., 1882, 314) that his examination of the type of *Tyrannula affinis* Swainson showed it to be the same as the species later described as *Empidonax fulvipectus* by Mr. Lawrence, I can not, under the circumstances, accept this determination until reexamination of the former and comparison with examples of the present species, *E. pulverius*, and *E. trepidus* (which are all closely related) establishes its correctness. It should be taken into consideration that, as one of the authors of the *Biologia Centrali-Americana*, Mr. Salvin not only confounds the present species with *E. pulverius* but, what is still more to the point, fails to recognize the difference between such very distinct forms as *E. difficilis* and *E. bairdi*, it is entirely possible he erred in the identification of *Tyrannula affinis* with *E. fulvipectus*. At any rate, it seems to me best to retain the latter name until it is satisfactorily shown that *E. affinis* should replace it.

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coverts, the feathers of pileum indistinctly darker medially; tail deep grayish brown (nearly hair brown), the outer webs of rectrices passing into light grayish olive on edges, the outer web of lateral rectrix much paler, approaching dull grayish white; wings dusky, the middle and greater coverts broadly tipped with pale buffy grayish (forming two conspicuous bands), the secondaries edged (except basally) with pale yellowish gray, the greater coverts and primaries narrowly edged with pale grayish; a broad orbital ring of dull white, interrupted on middle of upper eyelid; lores mixed buffy whitish or dull yellowish white and dusky; rest of sides of head and sides of neck similar in color to back but slightly paler and grayer, gradually fading below into the pale buffy yellowish or dull yellowish white of chin and throat, the upper portion of the latter, especially laterally, more or less tinged or suffused with dusky grayish; chest and sides pale buffy grayish or buffy olive, the remaining under parts pale buffy yellow (nearly straw yellow); axillars and under wing-coverts pale buffy yellow; inner webs of remiges broadly edged with pale grayish buffy; maxilla brownish black or blackish brown, mandible pale brownish or brownish white (in dried skins), sometimes tinged with brown or dusky terminally; iris brown; legs and feet brownish black or blackish brown.

Adults in winter.—Much more deeply colored than in summer, the upper parts deep buffy olive or ochraceous-olive, orbital ring pale yellow, and under parts deep straw yellow or approaching naples yellow (paler on throat), the chest and sides light buffy yellowish olive.

Young.—Similar to summer adults but upper parts browner, wing-bands cinnamon-buff or ochraceous, edges of secondaries buffy, and under parts buffy whitish, with chest and sides pale buffy grayish olive.

Adult male.—Length (skins), 127–133 (130); wing, 71.5–74 (73.2); tail, 60.5–65 (62); exposed culmen, 10.5–12 (11); tarsus, 16–17.5 (16.8); middle toe, 9.[a]

Adult female.—Length (skins), 123–132 (128); wing, 65.5–72 (68.1); tail, 57.5–62.5 (59.8); exposed culmen, 11–12 (11.3); tarsus, 16–16.5 (16.1); middle toe, 8–9.5 (8.8).[b]

Pine forests of southern Mexico, in States of southern Tamaulipas (Miquihuana,[c] June), Vera Cruz (Orizaba; Las Vigas), Mexico, ("City of Mexico;" Chimalpa; north slope of Volcan de Toluca, September; Amecameca, February), Morelos (Huitzalac, December), Guerrero

[a] Three specimens.

[b] Five specimens.

[c] Mr. Nelson refers the breeding bird (a single specimen) from Miquihuana to *E. pulverius*, but it is, in my opinion, not that form, but the present one.

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(Omilteme; Tepetalpa; mountains near Chilpancingo, December), and Oaxaca (La Parada; Cinco Señores).[a]

(?) *Tyrannula affinis* SWAINSON, Philos. Mag., n. s., i, 1827, 367 ("maritime parts of Mexico;" see Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 78).

(?) *T[yrannula] affinis* BONAPARTE, Consp. Av., i, 1850, 191.

Empidonax affinis SALVIN, Cat. Strickland Coll., 1882, 314 (Cinco Señores, Oaxaca; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 78, part (Amula, Omilteme, and Tepetalpa, Guerrero; City of Mexico and Chimalpa, Mexico; La Parada and Cinco Señores, Oaxaca).—NELSON, Auk, xviii, 1901, 48 (range).

[*Empidonax*] *affinis* SHARPE, Hand-list, iii, 1901, 140.

Empidonax fulvipectus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., x, Feb., 1871, 11 (City of Mexico; coll. G. N. Lawrence).—SALVIN, Ibis, 1874, 310 (crit.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 364; Ibis, 1886, 468.—COX, Auk, xii, 1895, 357 (Mount Orizaba, 10,000 feet alt.).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 42 (Las Vigas, Vera Cruz, 8,000 ft. alt.).

E[mpidonax] fulvipectus BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 364.—RIDGWAY, Man. N. Am. Birds, 1887, 344.

Empidonax obscurus (not of Baird; not *Tyrannula obscura* Swainson?) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 232, part (La Parada, Oaxaca).

EMPIDONAX TREPIDUS Nelson.

CHANCOL FLYCATCHER.

Similar to *E. fulvipectus*, but much darker and less buffy olive above and paler yellow below, chest and sides much more grayish, and upper throat conspicuously suffused or intermixed with dusky.

Adults in spring (*sexes alike*).—Above plain olive, the pileum slightly darker, with feathers still darker medially, the rump and upper tail-coverts slightly paler and more greenish olive; tail deep grayish brown (nearly hair brown), the outer webs of rectrices passing into grayish olive on edges, the outer web of lateral rectrix dull yellowish white or grayish white; wings darker grayish brown or dusky, the middle and greater coverts broadly tipped with pale buffy grayish (forming two conspicuous bands), the secondaries edged (except basally) with very pale buffy gray or dull whitish, the primaries and greater coverts narrowly edged with pale grayish olive; a broad white or yellowish white orbital ring, interrupted on upper eyelid; lores mixed yellowish white and dusky (the latter prevailing); rest of sides of head and sides of neck similar in color to back but slightly paler, gradually fading below into very pale straw yellow or dull yellowish grayish white on chin and throat; chin and upper throat more or less conspicuously suffused or intermixed with dusky grayish; chest and sides pale olive-grayish or yellowish gray, becoming much paler on flanks; rest of under parts pale straw or primrose yellow; axillars and under wing-coverts very pale dull straw yellow; inner webs of remiges edged with pale buffy grayish; maxilla blackish brown or brown-

[a] These specimens from Oaxaca require reexamination. They may represent *E. trepidus* Nelson.

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ish black, mandible wholly pale yellowish; iris brown; legs and feet brownish black or blackish brown.

Adults in winter.—Similar to the spring plumage, but coloration slightly deeper, the upper parts slightly more brownish olive, the chest and sides less grayish olive.

Adult male.—Length (skins), 132–140 (136); wing, 72–79 (73.8); tail, 61–69.5 (64.5); exposed culmen, 11.5–12 (11.8); tarsus, 17–17.5 (17.2); middle toe, 9.[a]

Adult female.—Length (skins), 126–134 (128); wing, 64.5–72.5 (69.4); tail, 56–61 (59.1); exposed culmen, 11–12 (11.7); tarsus, 16–17.5 (16.7); middle toe, 8.5–10 (9).[b]

Breeding in pine forests of northeastern Mexico, in State of Coahuila (Sierra Guadalupe), and possibly across to Jalisco (San Sebastian, March 21); migrating southward to Chiapas (San Cristobal, September), and Guatemala (Hacienda Chancol, January).

Empidonax trepidus NELSON, Auk, xviii, Jan., 1901, 47 (Hacienda Chancol, Guatemala, January 5; coll. U. S. Nat. Mus.), 48 (range).
[*Empidonax*] *trepidus* SHARPE, Hand-list, iii, 1901, 140.

EMPIDONAX DIFFICILIS DIFFICILIS Baird.

WESTERN FLYCATCHER.

Somewhat like *E. flaviventris*, but outermost (tenth) primary shorter than fifth, instead of longer; olive of upper parts much less greenish (more brownish or grayish), wing-bands pale buffy grayish or grayish buff instead of clear light yellow, yellow of under parts less pure, and chest and sides more buffy olive or brownish; tail longer. Young much more buffy, both above and below, than that of *E. flaviventris*, and with wing-bands cinnamon-buff or ochraceous.

Adults (sexes alike).[c]—Above plain brownish olive (varying to gray-

[a] Three specimens.
[b] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Coahuila (Sierra Guadalupe, May)	79	69.5	12	17.5	9
Two adult males from Guatemala (Hacienda Chancol, January)	72.2	62	11.7	17	9
FEMALES.					
One adult female from Coahuila (May)	68.5	60	11	17	9
One adult female from Jalisco (San Sebastian, March 21)	71.5	61	12	16	8.5
One adult female from Chiapas (September) and three from Guatemala (January)	69.1	58.4	11.8	16.9	9.1

[c] As in *E. flaviventris* there seems to be no difference in coloration between *adult* birds taken in autumn or winter and those taken in spring and early summer. In midsummer, however, when the plumage has become more or less worn or faded, the coloration is duller, the upper parts more grayish, and the yellow of the under parts paler.

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ish olive); tail grayish brown, the outer webs of rectrices passing into light grayish olive or buffy olive on edges; wings dusky, the middle and greater coverts rather broadly tipped with pale grayish olive, grayish buff, or olive-buff (forming two distinct bands), the secondaries edged (except basally) with the same; primaries grayish brown, very narrowly and indistinctly edged with paler; a broad orbital ring of pale buffy yellow or yellowish white, narrower but scarcely interrupted on middle of upper eyelid; lores pale yellowish or dull yellowish white, intermixed or suffused with dusky; rest of sides of head and sides of neck similar in color to upper parts, gradually fading below into the pale straw yellow or dull grayish yellowish white of chin and throat; chest and sides pale buffy olive, fading toward flanks; rest of under parts pale (primrose to straw) yellow; axillars and under wing-coverts pale (primrose) yellow, becoming more buffy or ochreous on edge of wing; inner webs of remiges edged with pale buff; maxilla brownish black or blackish brown, mandible wholly yellowish (brownish white or buffy in dried skins); iris brown; legs and feet dusky brown to brownish black.

Young.—Similar to adults, but color of upper parts much browner, wing-bands cinnamon-buff or ochraceous, and yellow of under parts paler.

Adult male.—Length (skins), 117–133 (127); wing, 62.5–72 (67.5); tail, 52–62.5 (57.1); exposed culmen, 10.5–13 (11.8); width of bill at nostrils, 5–6 (5.4); tarsus, 16–18 (17.3); middle toe, 8.5–10 (8.9).[a]

Adult female.—Length (skins), 117–130 (123); wing, 60–69 (64.4); tail, 53–60 (55); exposed culmen, 11–12 (11.4); width of bill at nostrils, 5–5.5 (5.4); tarsus, 15.5–17.5 (16.5); middle toe, 8–9 (8.8).[b]

[a] Twenty-one specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten breeding males from Rocky Mountain district (Montana to Arizona)	69.5	58.8	12	17.2	9.1
Eight breeding males from California	65	55.1	11.6	16.6	8.8
Five breeding males from Santa Barbara Islands (*E. insularicola* Oberholser)	67.3	57.6	12.7	17.7	9.1
Three breeding males from coast of Alaska	67.5	56.5	11.7	16.3	8.7
FEMALES.					
Four breeding females from Arizona and New Mexico	66	55.9	11.4	17	9
Six breeding females from California	63.4	54.6	11.4	16.3	8.6
One breeding female from coast of Alaska	64	54.5	11.5	16.5	9

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Western North America, from eastern base of Rocky Mountains and Western Manitoba (Duck Mountain, etc.) to Pacific coast; north to coast district of Alaska (Sitka; Point Gustavus); breeding southward to Santa Barbara Islands, California, northern Lower California, Arizona (Santa Catalina, Huachuca, and San Francisco mountains), southern New Mexico (San Miguel County), southwestern Texas (Chisos and Guadalupe mountains), and to mountains of southern Tamaulipas (Miquihuana)—probably also to mountains of Sonora, Chihuahua, Coahuila, and Nuevo Leon; in winter southward through Mexican States of Sinaloa (Mazatlan; Culiacan), Durango (Chacala), Jalisco (Barranca Ibarra; Las Palmas; Zapotlan), Michoacan (near Ahuacana), Colima (Plains of Colima; Colima; Manzanillo), Guerrero (Acapulco; El Limon; Papayo; Acahuitzotla), Oaxaca (Pluma; Puerto Angel), and to Tres Marias Islands and Cape San Lucas.[a]

Myiobius pusillus (not *Platyrhynchus pusillus* Swainson) GAMBEL, Journ. Ac. Nat. Sci. Philad., i, 1847, 38 (Los Angeles, California, breeding).

Empidonax pusillus (not of Baird) COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 170, part (Shoalwater Bay and Steilacoom, Washington).

Empidonax difficilis BAIRD, Rep. Pacific R. R. Surv., ix, Oct., 1858, 198, in text (Fort Steilacoom and Shoalwater Bay, Washington; coll. U. S. Nat. Mus.); Cat. N. Am. Birds, 1859, no. 144 *a*; ed. 1860 ("Birds N. Am.,)" 198, pl. 76, fig. 2.—XANTUS, Proc. Ac. Nat. Sci. Philad., 1859, 190 (Fort Tejon, California).—SCLATER, Cat. Am. Birds, 1862, 230 (California); Cat. Birds Brit. Mus. xiv, 1888, 229 (Vancouver I.; Mazatlan; Plains of Colima; Tres Marias Islands, etc.).—COUES, Proc. Ac. Nat. Sci. Philad., 1866, 62 (Fort Whipple, Arizona).—LAWRENCE, Proc. Bost. Soc. N. H., xiv, 1871, 279 (Tres Marias Islands, w. Mexico).—RIDGWAY, Orn. 40th Parallel, 1877, 544 (Wahsatch Mts., Utah, breeding); Field and Forest, 1877, 208 (Colorado); Nom. N. Am. Birds, 1881, no. 323; Ibis, 1886, 466.—BELDING, Proc. U. S. Nat. Mus., i, 1878, 425 (Stockton and Calaveras Co., California); v, 1882, 531 (Cerros I., Lower California); v, 1883, 542 (Cape San Lucas); vi, 1883, 348 (Victoria Mts., Lower California, winter).—BREWER, Proc. U. S. Nat. Mus., ii, 1879, 2 (descr. nests and eggs).—MAILLIARD, Bull. Nutt. Orn. Club, vi, 1881, 119 (Nicasio, California; nesting habits).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 161 (near Sitka, Alaska).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains to 10,000 ft.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 464.—SCOTT, Auk, iv, 1887, 19 (Santa Catalina Mts., Arizona, June to Oct.).—MEARNS, Auk, vii, 1890, 256 (San Francisco Mts., Arizona, breeding nearly to timber line; notes).—(?) NUTTING, Bull. Labr. N. H. State Univ. Iowa, ii, 1893, 272 (Grand Rapids, lower Saskatchewan, common).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 298, pl. 2, figs. 24, 25 (eggs).—GRINNELL (J.), Auk, xv, 1898, 128 (Sitka, Alaska; habits).—MITCHELL, Auk, xv, 1898, 309 (San Miguel Co., New Mexico, breeding up to 10,000 ft. alt.).—NELSON, North Am. Fauna, no. 14, 1899, 49 (Tres Marias).—

[a] The American Ornithologists' Union Check List gives south to Costa Rica, while the "Catalogue of Birds in the British Museum" (xiv, 229) "Western Ecuador" as the southern limit to the range of this species; but I am unable to trace it beyond the States of Guererro and Oaxaca in southern Mexico, either by specimens or authentic records.

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Osgood, North Am. Fauna, no. 21, 1901, 46 (Cumshewa Inlet, Queen Charlotte I., common).—Brewster, Bull. Mus. Comp. Zool., xli, 1902, 120 (Cape district, Lower California, Nov., Dec.).—Oberholser, Auk, xix, 1902, 300 (Chisos and Guadalupe Mts., w. Texas).—Bailey (Florence M.), Handb. Birds W. U. S., 1902, 260; Auk, xxi, 1904, 355 (upper Pecos, New Mexico, 8,000 to 11,000 ft. alt.).—Swarth, Pacific Coast Avifauna, no. 4, 1904, 25 (Huachuca Mts., breeding at 7,000 to 9,000 ft.).—Miller (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 356 (Escuinapa and Mt. Lisiarraga, Sinaloa, Oct. to Apr.).

E mpidonax] *difficilis* Ridgway, Man. N. Am. Birds, 1887, 340.—Coues, Key N. Am. Birds, 5th ed., i, 1903, 531.

[*Empidonax*] *difficilis* Sharpe, Hand-list, iii, 1901, 139.

Empidonax flavvientris, var. ? *difficilis* Cooper and Suckley, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 170, footnote (Shoalwater Bay and Fort Steilacoom, Washington).

Empidonax flaviventris, var. *difficilis* Allen, Bull. Mus. Comp. Zool., iii, 1872, 179 (Utah).—Ridgway, Bull. Essex Inst., v, Nov., 1873, 184 (Colorado).—Baird, Brewer, Ridgway, Hist. N. Am. Birds, ii, 1874, 380.—Lawrence, Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan; Tres Marias; Plains of Colima).

Empidonax flaviventris . . . var. *difficilis* Henshaw, Zool. Exp. W. 100th Merid., 1875, 359 (Rio Grande, Colorado; Fort Wingate, Inscription Rock, and South Apache, Arizona; Willow Springs, Mount Graham, and Bowie, Arizona).

[*Empidonax flaviventris*] b. *difficilis* Coues, Birds Northwest, 1874, 256.

Empidonax flaviventris difficilis Ridgway, Bull. Essex Inst., vi, Oct., 1874, 174 (Sierra Nevada, near Carson City); vii, 1875, 33 (Parley's Park, Utah).—Minot, Bull. Nutt. Orn. Club, v, 1880, 231 (Colorado, 8,000 ft. alt.; notes).—Drew, Bull. Nutt. Orn. Club, vi, 1881, 140 (San Juan Co., Colorado, breeding at 10,000 ft.).—Brewster, Bull. Nutt. Orn. Club, vii, 1882, 206 (Camp Lowell and Tucson, Arizona; crit.).—Coues, Check List, 2d ed., 1882, no. 389.—Allen and Brewster, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).

E[*mpidonax*] *f*[*laviventris*] *difficilis* ? Coues, Key N. Am. Birds, 2d ed., 1884, 442.

Empidonax flaviventris (not of Baird) Sclater, Ibis, 1859, 441, part (Mexico).—Cooper, Orn. Cal., i, 1870, 328.— (?) Seton, Auk, iii, 1886, 321 (Duck Mt., w. Manitoba breeding).

[*Pyrocephalus*] *flaviventris* Gray, Hand-list, i, 1869, 361, no. 5493 (part).

Empidonax bairdi (not of Sclater) Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 74, part.

Empidonax insulicola Oberholser, Auk, xiv, July, 1897, 300 (Santa Barbara I., California; coll. U. S. Nat. Mus.).—Black, Auk, xiv, 1897, 405 (nesting habits; descr. nest and eggs).—Grinnell (J.), Pub. no. 1, Pasadena Ac. Sci., 1897, 15 (San Clemente I.; habits); Condor, vii, 1905, 51 (crit.; considers=*difficilis*.)—American Ornithologists' Union Committee, Auk, xviii, 1901, 302 (check list no. 464.2).—Bailey (Florence M.), Handb. Birds W. U. S., 1903, 260.

[*Empidonax*] *insulicola* Sharpe, Hand-list, iii, 1901, 139.

E mpidonax] *insulicola* Coues, Key N. Am. Birds, 5th ed., i, 1903, 531.

Empidonax bairdi perplexus Nelson, Auk, xvii, July, 1900, 263 (Puerto Angel, Oaxaca; coll. U. S. Nat. Mus.).

[*Empidonax*] *perplexus* Sharpe, Hand-list, iii, 1901, 139.

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EMPIDONAX DIFFICILIS CINERITIUS (Brewster).

SAN LUCAS FLYCATCHER.

Similar to *E. d. difficilis*, but color of upper parts averaging duller and grayer, under parts paler, and bill usually narrower.

Adult male.—Length (skins), 115–127 (123); wing, 607–706 (5;). tail, 54.5–60.5 (57.5); exposed culmen, 11.5–13.5 (12.3); width of bill at nostrils, 5–5.5 (5.1); tarsus, 16–17.5 (16.6); middle toe, 8–9.5(8.6).[a]

Adult female.—Length (skins), 113–128 (120); wing, 58–65 (61.7); tail, 53–60 (55.1); exposed culmen, 11–12.5 (11.6); width of bill at nostrils, 5–5.5 (5.2); tarsus, 15.5–17 (16.3); middle toe, 8–9 (8.2).[b]

Lower California (Sierra Laguna; Cape San Lucas; San José del Rancho; La Paz; Comondu; San Fernando; San Telmo; Los Elisos; Santa Rosalia Bay; San Benito and Santa Margarita islands; Hanson Laguna; La Grulla; Rancho San Tomas; Vallecito; San Pedro Martir Mountains) and adjacent portion of San Diego County, California (Cuymaca Mountains, breeding between 4,000 and 6,000 feet).

Empidonax flaviventris (not of Baird) COOPER, Orn. Cal., 1870, 329, part (Cape San Lucas).—COUES, Check List, 1873, no. 259, part.

[*Empidonax*] *flaviventris* COUES, Key N. Am. Birds, 1872, 175, 176, part.

Empidonax difficilis (not of Baird) RIDGWAY, Nom. N. Am. Birds, 1881, no. 323, part.—BELDING, Proc. U. S. Nat. Mus., vi, 1883, 348 (Victoria Mts., Lower California).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 464, part.

Empidonax flaviventris difficilis COUES, Check List, 2d ed., 1882, no. 389, part.

[a] Twenty specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten males from Cape San Lucas district	66.8	57.7	12.5	16.7	8.8
Ten males from San Pedro Martir Mountains	64.6	57.2	12.2	16.5	8.4
FEMALES.					
Four females from Cape San Lucas district	63.8	57	11.9	16.6	8.5
Six females from San Pedro Martir Mountains	60.3	53.8	11.5	16.2	8.1

I have considerable difficulty in separating this form satisfactorily from *E. d. difficilis*, from which it certainly is not more than subspecifically distinct, birds from the extreme northern portion of Lower California and some of those from San Diego County, California, being unmistakable intergrades, as are also some of those from Arizona and Sonora. In fact, beyond the duller and grayer or less olive coloration of upper parts and less pronounced yellowness of the under surface, comparing specimens in corresponding condition of plumage, I can find no differences that are constant or reasonably characteristic. The differences appear to be more pronounced in the young (first plumage) than in adults, those of *E. d. cineritius* being lighter and much less olive (more buffy grayish brown) above and decidedly paler (dull white or buffy white—not distinctly yellowish) beneath.

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Empidonax cineritius BREWSTER, Auk, v, Jan., 1888, 90 (La Laguna, Lower California; coll. W. Brewster); Bull. Mus. Comp. Zool., xli, 1902, 121 (Cape district, Lower California, resident; habits; crit.).—CHAPMAN, Auk, v, 1888, 396.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. Check List, 1889, 10; Check List, abridged ed., 1889, and 2d ed., 1895, no. 464.1.—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 291 (Laguna, Comondu, etc., Lower California).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., xiii, 1890, 137 (Cape San Lucas).—ANTHONY, Zoe, iv, 1893, 238 (San Pedro Martir Mts., Lower California), 390 (Cuymaca Peak, San Diego Co., California).—COUES, Key N. Am. Birds, 4th ed., 1894, 901.—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 301.—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 599.—KAEDING, Condor, vii, 1905, 135 (San José del Cabo and San Juanico Bay, Apr., May).

[*Empidonax*] *cineritius* SHARPE, Hand-list, iii, 1901, 139.

E[*mpidonax*] *cineritius* COUES, Key N. Am. Birds, 5th ed., i, 1903, 531.

[*Empidonax bairdi*] var. *cineritia* DUBOIS, Syst. Av., fasc. iv, 1900, 248.

EMPIDONAX DIFFICILIS BAIRDI (Sclater).

BAIRD'S FLYCATCHER.

Similar to *E. d. difficilis*, but more richly colored, the upper parts darker or brighter olive-greenish, wing-bands browner, and under parts more strongly yellowish; bill relatively broader (especially toward end), with lateral outlines more convex.

Adults (*sexes alike*).—Above plain brownish olive-green to almost olive-brown; tail deep grayish brown, the outer webs of rectrices passing into light olive or olive-brown on edges; wings darker grayish brown, the middle and greater coverts broadly tipped with olive-buff, light buffy olive, or light cinnamon-buff (forming two distinct bands), the secondaries edged (except basally) with the same, the primaries and greater coverts narrowly edged with light olive; a broad orbital ring of yellowish white or very pale yellow, interrupted on middle of upper eyelid; lores pale yellowish or yellowish white, intermixed with dusky, especially near anterior angle of eye; rest of sides of head and sides of neck similar in color to upper parts, fading below into the pale dull olive-yellowish of chin and throat; chest and sides light buffy brownish olive, the sides similar but paler, fading on flanks into light yellow; rest of under parts light yellow (between sulphur and primrose); axillars and under wing-coverts primrose yellow, deepening on edge of wing into more buffy or ochraceous yellow; inner webs of remiges edged with pale brownish buffy; maxilla dusky brown or blackish, mandible wholly pale (brownish white in skins); iris brown; legs and feet dusky brown or blackish.

Adult male.—Length (skins), 130–136 (134); wing, 65.5–72 (70); tail, 58–63.5 (61.2); exposed culmen, 11.5–13 (12.4); tarsus, 16–17.5 (17); middle toe, 9–10 (9.3).[a]

[a] Five specimens.

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Adult female.—Length (skins), 124–134 (130); wing, 64.5–66.5 (65); tail, 54–60 (57.2); exposed culmen, 11.5–12 (11.7); tarsus, 16.5–17.5 (16.7); middle toe, 8.5–9 (8.9).[a]

Highlands of central and southern Mexico, in States of Durango (Chacala), Morelos (Cuernavaca; Huitzilac), Vera Cruz (Mirador; Cordova; Perote), Michoacan (Mount Tancitaro), Guerrero (Omilteme), and Oaxaca (Pluma).

Empidonax bairdi SCLATER, Proc. Zool. Soc. Lond., 1858 (pub. Nov.), 301 (State of Oaxaca, s. Mexico; coll. P. L. Sclater); Ibis, 1859, 442 (Cordova, Vera Cruz; Oaxaca); Cat. Am. Birds, 1862, 230, part (Cordova); Cat. Birds Brit. Mus., xiv, 1888, 230 (Cordova; excl. citation Lawrence, Ann. Lyc. N. Y., vii, 327, = *E. virescens.*)—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 363 (Mirador, Vera Cruz).—RIDGWAY, Ibis, 1886, 466.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 74, part.

[*Empidonax*] *bairdi* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.—SHARPE, Hand-list, iii, 1901, 139.

E[*mpidonax*] *bairdi* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 363.

E[*mpidonax*] *bairdii* RIDGWAY, Man. N. Am. Birds, 1887, 341.

[*Pyrocephalus*] *bairdii* GRAY, Hand-list, i, 1869, 361, no. 5494.

Empidonax bairdi occidentalis NELSON, Auk, xiv, Jan., 1897, 53 (Pluma, Oaxaca; coll. U. S. Nat. Mus.). (See Nelson, Auk, xvii, 1900, 264.)

EMPIDONAX SALVINI Ridgway.

SALVIN'S FLYCATCHER.

Similar to *E. difficilis bairdi*, but olive-green of upper parts much brighter, and color of chest more olive-greenish.

Adults (sexes alike).—Above plain bright olive-green; tail dusky grayish brown, the outer webs of rectrices passing into olive-green on edges; wings dusky, the middle and greater coverts broadly tipped with light buffy olive, olive-buffy, or dull buff (forming two distinct bands), the secondaries edged (except basally) with pale olive or olive-buff, the primaries narrowly edged with the same; a broad orbital ring of dull white or yellowish white, interrupted on upper eyelid; lores mixed whitish and dusky; rest of sides of head and sides of neck similar in color to upper parts, fading gradually below into pale grayish olive-yellow on chin and throat; chest light olive-green, this continued laterally over sides, becoming paler on flanks; rest of under parts light yellow (sulphur to primrose); axillars and under wing-coverts pale yellow (primrose), becoming brighter or deeper on edge of wing; inner webs of remiges edged with pale grayish buffy; maxilla black or brownish black, mandible wholly brownish white (in dried skins); legs and feet dusky brown.

[a] Four specimens.

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Adult male.—Length (skin), 136; wing, 69; tail, 58; exposed culmen, 11.5; tarsus, 17.5; middle toe, 9.5.[a]

Adult female.—Length (skin), 125; wing, 64.5; tail, 57; exposed culmen, 11.5; tarsus, 16; middle toe, 9.5.[b]

Highlands of Guatemala (Coban; Choctum; Calderas, on Volcan de Fuego; Volcan de Agua), Chiapas (Tumbalá), and Honduras.[c]

Empidonax bairdi (not of Sclater, 1858) SCLATER and SALVIN, Ibis, 1860, 36 (Coban, Guatemala).—SCLATER, Cat. Am. Birds, 1862, 230, part (Coban).

[*Empidonax*] *bairdi* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part (Guatemala).

Empidonax salvini RIDGWAY, Ibis, 5th ser., iv, Oct., 1886, 459 (Calderas, Volcan de Fuego, Guatemala; coll. U. S. Nat. Mus.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 231 (Volcan de Agua, Calderas Choctum, and Coban, Guatemala; Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 75.

E[*mpidonax*] *salvini* RIDGWAY, Man. N. Am. Birds, 1887, 341.

[*Empidonax*] *salvini* SHARPE, Hand-list, iii, 1901, 139.

(?) [*Pyrocephalus*]"? *hypoxanthus*, Baird" (not *Empidonax hypoxanthus* Baird) GRAY, Hand-list, i, 1869, 361, no. 5495 (Vera Paz).

EMPIDONAX FLAVESCENS Lawrence.

YELLOWISH FLYCATCHER.

Adults (*sexes alike*).—Above plain deep yellowish olive-green; tail deep grayish brown, the outer webs of rectrices passing into yellowish olive-green on edges; wings darker grayish brown or dusky, the middle and greater coverts broadly tipped with cinnamon-buff, buff, or greenish buff, forming two distinct bands, the greater coverts and primaries narrowly edged with light olive; secondaries edged (except basally) with olive-yellowish; a broad and conspicuous pale yellow or yellowish white orbital ring; lores pale yellowish and dusky; rest of sides of head and sides of neck yellowish olive-green, the auricular region with paler (yellowish) shaft-streaks; chin pale yellow or yellowish white, sometimes suffused laterally with grayish or dusky; throat clear yellow (more or less deep); chest varying from light yellowish olive or olive-yellow to deep wax yellow; rest of under parts pure light yellow (sulphur to canary), the sides tinged with light olive; axillars and under wing-coverts pale yellow, the latter becoming deep buff-yellow toward edge of wing; inner webs of remiges edged with pale dull buffy; maxilla black, or brownish black, mandible whitish; iris brown; legs and feet dusky brown or blackish.

Young.—Similar to adults but more brownish olive-green above, paler yellowish beneath (abdomen almost white), chest brownish buffy, and wing-bands and edges of secondaries cinnamomeous.

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[a] One specimen, from Calderas, Guatemala.

[b] One specimen, from Tumbalá, Chiapas.

[c] According to Sclater, no definite locality being given.

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Adult male.—Length (skins), 113–136 (123); wing, 61.5–72 (66.5); tail, 50–57 (53–8); exposed culmen, 10.5–13 (12.1); tarsus, 16–18 (16.9); middle toe, 9–10.5 (9.4).[a]

Adult female.—Length (skins), 110–122 (117); wing, 58.5–64 (61.5); tail, 47.5–52.5 (49.5); exposed culmen, 10.5–13 (11.5); tarsus, 15.5–17 (16.2); middle toe, 8–9.5 (8.9).[b]

Uplands of Costa Rica (Barranca; Grecia; Cervantes; La Estrella de Cartago; Juan Viñas; Dota; Azahar; Coliblanco; Burgos, on Volcan de Irazú; La Palma de San José; Quebrada Honda; Naranjo) and western Panama (Boquete, on Volcan de Chiriqui, 4,000 to 6,500 ft. alt.; Calovevora).

Empidonax flavescens LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 133 (Barranca, Costa Rica; coll. U. S. Nat. Mus.); ix, 1868, 115 (Barranca, Grecia, and Quebrada Honda, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 198 (Calovevora and Volcan de Chiriqui, Panama; crit.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 363.—BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (Naranjo, Costa Rica).—RIDGWAY, Ibis, 1886, 467 (diagnosis).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 231 (Irazú and Dota, Costa Rica; Volcan de Chiriqui and Calovevora, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 75.—BANGS, Proc. New Eng. Zool. Club, iii, 1902, 39 (Boquete, Panama, 4,000 to 6,500 ft.).

[*Empidonax*] *flavescens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 139.

E[*mpidonax*] *flavescens* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 363 (diagnosis).

[*Pyrocephalus*] *flavescens* GRAY, Hand-list, i, 1869, 361, no. 5503.

Empidonax viridescens RIDGWAY, Proc. U. S. Nat. Mus. , vi, Apr. 11, 1884, 413 (Cervantes, Costa Rica; coll. U. S. Nat. Mus.).

EMPIDONAX ALBIGULARIS Sclater and Salvin.

WHITE-THROATED FLYCATCHER.

Adults (*sexes alike*).—Above plain brownish olive or olive-brown, the pileum slightly darker and duller; tail deep grayish brown, the outer webs of rectrices passing into light brownish olive on edges; wings darker grayish brown, the middle and greater coverts broadly tipped

[a] Seventeen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Costa Rica	66.4	53.6	11.7	16.9	9.3
Eight adult males from western Panama (Boquete)	66.6	54.1	12.2	17	9.6
FEMALES.					
Seven adult females from Costa Rica	60.8	48.7	11.3	16.1	8.9
Four adult females from Boquete	62.7	51	11.8	16.4	9

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with light buffy brown or dull brownish buffy, forming two conspicuous bands, the secondaries edged (except basally) with pale buffy grayish or pale dull grayish buff; auricular region and sides of neck similar in color to pileum but paler, gradually fading below into the dull white of chin and throat; lores and indistinct orbital ring dull buffy whitish, the former tinged or intermixed with dusky grayish brown near anterior angle of eye; chest pale buffy olive-brownish, darker laterally, fading into paler buffy brownish on sides and flanks; rest of under parts pale buffy yellow or yellowish buff (abdomen sometimes approaching whitish), deepening into brownish buff on anal region, under tail-coverts, and posterior portion of flanks; axillars and under wing-coverts brownish buffy, deepening into cinnamon-buff on margin of wing; inner webs of remiges broadly edged with buff; maxilla dark horn color or dusky brown, mandible wholly pale (brownish white in dried skins); iris brown; legs and feet dusky brown.

Young.—Essentially like adults, but upper parts more brownish, wing-bands cinnamon, secondaries broadly margined with pale buffy brown and under parts more buffy.

Adult male.—Length (skins), 118–126 (121); wing, 60–62 (61); tail, 52–54.5 (53.2); exposed culmen, 11–12.5 (11.7); tarsus, 16.5–17.5 (16.8); middle toe, 9–10 (9.7).[a]

Adult female.—Length (skins), 113; wing, 57.5–60 (58.8); tail, 51–55.5 (53.3); exposed culmen, 11.5; tarsus, 16–16.5 (16.3); middle toe, 9.5.[b]

Southern Mexico, in States of Vera Cruz (Orizaba; Jalapa; Jico), Mexico (Huipulco; San Nicolas; Lerma), and Guerrero (Acapulco; Dos Arroyos); Guatemala (Dueñas; Coban); Costa Rica (Reventazón); Panama.

Empidonax albigularis Sclater and Salvin, Ibis, Apr., 1859, 122 (Dueñas, Guatemala; coll. Salvin and Godman); Proc. Zool. Soc. Lond., 1864, 360 (Panama; crit.).—Sclater, Cat. Am. Birds, 1862, 229 (Orizaba, Vera Cruz; Coban and Dueñas, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 223 (Orizaba; Coban; Dueñas; Panama).—Ridgway, Ibis, 1886, 463.—Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 70, pl. 40, fig. 2 (Acapulco and Dos Arroyos, Guerrero; Huipulco, Mexico; Jalapa, Vera Cruz; etc.).—Cherrie, Proc. U. S. Nat. Mus., xiv, 1891, 535 (Costa Rica).—Chapman, Bull. Am. Mus. N. H., x, 1898, 31 (Jalapa, Vera Cruz).

[*Empidonax*] *albigularis* Sclater and Salvin, Nom. Av. Neotr., 1873, 52. —Sharpe Hand-list, iii, 1901, 137.

E[*mpidonax*] *albigularis* Ridgway, Man. N. Am. Birds, 1887, 340.

[*Pyrocephalus*] *albigularis* Gray, Hand-list, i, 1869, 361, no. 5497.

Empidonax axillaris Ridgway, in Baird, Brewer, and Ridgway's Hist. N. Am. Birds, ii, 1874, 363 (Orizaba, Vera Cruz, Mexico; coll. U. S. Nat. Mus.).—Salvin, Ibis, 1874, 309 (crit.; refers it to *E. albigularis*).

[a] Three specimens, from State of Vera Cruz.

[b] Two specimens, from State of Vera Cruz.

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EMPIDONAX TIMIDUS Nelson.

DURANGO FLYCATCHER.

Most like *E. albigularis*, but paler brown above, especially on pileum; under parts decidedly paler, especially on chest and under wing-coverts, the latter clear uniform buff toward margin of wing.

Adult male.—Above plain grayish brown (hair brown), becoming brighter or tinged with buffy on lower back, rump, and upper tail-coverts; tail deeper grayish brown, the rectrices with outer webs passing into pale buffy grayish brown on edges, the outer web of lateral rectrix very pale grayish buffy or grayish buffy whitish; wings deep grayish brown, the middle and greater coverts broadly tipped with brownish buff, forming two conspicuous bands, the posterior of which is paler and less brownish buffy; secondaries edged (except basally) with pale grayish buffy; auricular region and sides of neck similar in color to pileum but slightly paler, fading below (rather abruptly) into the buffy white of chin and throat; indistinct orbital ring and anterior portion of lores very pale buffy; chest very pale yellowish buffy, slightly tinged with pale grayish olive, passing into pale buffy grayish brown or olive laterally; rest of under parts very pale yellowish buff, tinged with pale grayish olive on sides and flanks; thighs deep brownish buff, the upper portion suffused with dusky; axillars and under wing-coverts pale buff, the latter becoming deeper buff toward edge of wing; inner web of remiges broadly edged with pale dull buffy; maxilla deep brown or dark horn color; legs and feet dusky brown; length (skin), 123; wing, 62; tail, 55.5; exposed culmen, 11; tarsus, 16; middle toe, 10.[a]

Northwestern Mexico, in State of Durango (El Salto).

Empidonax timidus Nelson, Auk, xvii, July, 1900, 263 (El Salto, Durango; coll. U. S. Nat. Mus.).

[*Empidonax*] *timidus* Sharpe, Hand-list, iii, 1901, 137.

EMPIDONAX ATRICEPS Salvin.

BLACK-CAPPED FLYCATCHER.

Adults in breeding season (sexes alike).—Pileum and hindneck uniform sooty black; back, scapulars, and rump plain olive or olive-brown (varying much in intensity); tail dusky grayish brown to nearly black, the outer web of lateral rectrix white; wings dusky grayish brown to dull black, the middle and greater coverts more or less broadly tipped with grayish brown (more or less deep), the secondaries edged (except basally) with pale grayish brown or whitish; auricular region grayish brown or olive (more or less deep), the sides of neck

[a] One specimen (the type).

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similar but paler; a whitish orbital ring, interrupted on middle of upper eyelid; lores blackish, usually more or less intermixed with dull whitish; chin and throat pale grayish or dull grayish white, more or less tinged with pale yellowish and usually somewhat suffused or intermixed with dusky; chest and sides varying from rather light grayish brown to almost sepia, becoming much paler on flanks; rest of under parts pale yellow (primrose); maxilla dusky brown or blackish, mandible pale, usually more or less brownish or dusky at tip; iris dark brown; legs and feet dusky brown or blackish.

Adults in autumn.—Similar to the summer plumage, but color of back, chest, and sides browner, the two latter sometimes approaching raw-umber.

Young.—Essentially like adults, but black of pileum usually duller, more sooty.

Adult male.—Length (skins), 104–117 (111); wing, 57–62 (60); tail, 48.5–55 (51.1); exposed culmen, 9.5–11 (10.2); tarsus, 16–16.5 (16.2); middle toe, 8–10 (9).[a]

Adult female.—Length (skins), 105–113 (110); wing, 55.5–59.5 (57.4); tail, 47–51 (49.2); exposed culmen, 9.5–11 (10.2); tarsus, 15–16.5 (15.8); middle toe, 8–9 (8.7).[b]

Highlands of Costa Rica (Pirris; Achiote; Volcan de Irazú; Volcan de Poás; Volcan de Turrialba; Dota Mountains; Rancho Redondo) and western Panama (Volcan de Chiriqui, 10,000 to 11,000 ft. alt.).

Empidonax atriceps SALVIN, Proc. Zool. Soc. Lond., 1870, 198 (Volcan de Chiriqui, Panama; coll. Salvin and Godman).—RIDGWAY, Proc. U. S. Nat. Mus., vi, 1883, 413 (Pirris, Costa Rica; description).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 79. pl. 40, fig. 3.

[*Empidonax*] *atriceps* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 140.

Mitrephanes atriceps RIDGWAY, Ibis, Oct., 1886, 461 (crit.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 220 (Irazú district, Costa Rica; Volcan de Chiriqui).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 37 (Volcan de Chiriqui, 10,300 to 11,000 ft. alt.).

[a] Thirteen specimens.

[b] Nine specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Costa Rica	59.9	50.8	10.3	16.2	9
Three adult males from western Panama (Volcan de Chiriqui)	60.5	52	10	16.3	8.2
FEMALES.					
Seven adult females from Costa Rica	57.7	49.4	10.2	15.8	8.8
Two adult females from Volcan de Chiriqui	56 5	48.5	10.5	16	8.3

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EMPIDONAX FULVIFRONS FULVIFRONS (Giraud).

FULVOUS FLYCATCHER.

Adult.—Above plain broccoli brown, sligthly darker on pileum and paler on rump; tail grayish brown (hair brown), the outer webs of rectrices passing into paler grayish brown or brownish gray on edges, the outer web of lateral rectrix grayish white; wings deeper hair brown, the middle coverts broadly tipped with pale grayish buff and greater coverts broadly tipped with paler grayish buff (forming two conspicuous bands), the secondaries edged (except basally) with dull grayish buffy white; an indistinct orbital ring of pale dull buff or dull buffy white; lores dull buffy whitish, intermixed with dusky; rest of sides of head and sides of neck similar in color to upper parts but slightly paler, fading gradually below into the pale grayish buffy of chin and throat; rest of under parts cinnamon-buff, deepest on chest, paler on abdomen and flanks, the under tail-coverts still paler, inclining to buffy white; axillars and under wing-coverts pale buff, deepening into cinnamon-buff on outer edge of wing; inner webs of remiges edged with very pale grayish buffy; maxilla horn brownish, mandible wholly dull whitish (in dried skin); length (skin), 126; wing, 68; tail, 57; exposed culmen, 9.5; tarsus, 15.5; middle toe, 8.5.[a]

"Texas" (Giraud); probably mountains of northeastern Mexico.

Muscicapa fulvifrons GIRAUD, Sixteen Sp. Texas Birds, 1841, pl. 2, fig. 2 ("Texas;" type now in coll. U. S. Nat. Mus.).

Mitrephorus fulvifrons SCLATER, Proc. Zool. Soc. Lond., 1859, 45.

Empidonax fulvifrons (not of Sclater, 1858) RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 187, 218, 229; Nom. N. Am. Birds, 1881, no. 329; Proc. Biol Soc. Washington, ii, 1884, 109 (crit.); Ibis, 1886, 462 (diagnosis).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 470.—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 321.

E[mpidonax] fulvifrons RIDGWAY, Man. N. Am. Birds, 1887, 344.

[*Empidonax*] *fulvifrons* SHARPE, Hand-list, iii, 1901, 137.

Mitrephanes fulvifrons COUES, Bull. Nutt. Orn. Club, vii, Jan., 1882, 55.

[*Mitrephorus fulvifrons*] var. *fulvifrons* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 385.

[*Empidonax fulvifrons* var. *pallescens*] a. *fulvifrons* COUES, Birds Northwest, 1874, 259, part (chiefly *E. f. rubicundus*).

E[mpidonax] (*M[itrephanes]*) *fulvifrons* COUES, Key N. Am. Birds, 5th ed., i, 1903, 532.

[*Pyrocephalus*] *cinnamomeus* "Sw[ainson]" GRAY, Hand-list, i, 1869, 361, no. 5488, part.

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[a] Description and measurements of the type, a specimen of undetermined sex. Making all due allowance for fading (the specimen having been mounted), the differences of coloration from the other two forms of the species are so marked and the measurements so much greater (except those of the bill) that I am convinced it represents a distinct form.

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EMPIDONAX FULVIFRONS PYGMÆUS (Coues).

BUFF-BREASTED FLYCATCHER.

Similar to *E. f. fulvifrons*, but decidedly smaller and color of upper parts either darker or grayer.

Adults in spring and summer (sexes alike).—Above plain hair brown or buffy hair brown, slightly darker and duller on pileum; tail more grayish brown, the outer webs of rectrices passing into paler grayish brown on edges, the outer web of lateral rectrix grayish white; wings deep grayish brown, the primaries and greater coverts narrowly edged with paler, the middle and greater coverts broadly tipped with pale buffy grayish, grayish buffy, or dull whitish, the secondaries edged (except basally) with dull whitish; a rather indistinct orbital ring of dull buffy white; lores dull buffy white, slightly intermixed with dusky; rest of sides of head and sides of neck similar in color to upper parts, but slightly paler, gradually fading below into the dull buffy whitish or pale buff of chin and throat; chest and sides buff to tawny-buff, paler on flanks; abdomen and under tail-coverts pale buff or buffy white; axillars and under wing-coverts pale buff, deeper toward edge of wing; inner webs of remiges edged with pale grayish buff; maxilla dusky brown to brownish black, mandible wholly pale yellowish; iris brown; legs and feet dusky brown to brownish black.

Adults in autumn and winter.—Similar to the spring and summer plumage, but color of upper parts more buffy (buffy broccoli brown), wing-bands more buffy, and under parts more deeply colored, the chest, etc., tawny buff, the throat, abdomen, etc., light yellowish buff or buff-yellow.

Young.—Similar to spring and summer adults, but upper parts browner and wing-bands dull buff or cinnamon-buff.

Adult male.—Length (skins), 107–116 (111); wing, 56–65 (61.4); tail, 44–53 (49); exposed culmen, 8.5–11 (10); tarsus, 13.5–15.5 (14.3); middle toe, 7–8.5 (7.9).[a]

Adult female.—Length (skins), 100–115 (107); wing, 56–61 (58.4); tail, 46–49.5 (47.4); exposed culmen, 8.5–10 (9.6); tarsus, 13.5–14.5 (14.1); middle toe, 7–8 (7.5).[b]

Breeding in mountains of central and southern Arizona (Chiricahua, Huachuca, and Santa Rita ranges; Fort Whipple; Apache; Bowie), southwestern New Mexico (Lone Mountain; El Moro; Inscription Rock; Fort Bayard; Grant County), and northern Chihuahua (Piños Altos; Colonia Garcia); migrating southward through Sonora (near Alamos, January; Nacosari, March), and southern Chihuahua (Durasno, December; Sierra Madre, near Guadalupe y Calvo, September;

[a] Thirteen specimens. [b] Eight specimens.

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Tatuaca; Rio Verde), to northern Sinaloa (Sierra de Choix, October), Jalisco (Bolaños, September), and Durango (Chacala, March 4).

E[mpidonax] pygmæus COUES, Ibis, 2d ser., i, Oct., 1865, 537 (Fort Whipple, Arizona; coll. U. S. Nat. Mus.).

Empidonax pygmæus COUES, Ibis, 1865, 538, in text (Fort Whipple).

[*Empidonax*] *pygmæus* SHARPE, Hand-list, iii, 1901, 137.

Empidonax fulvifrons pygmæus RIDGWAY, Proc. U. S. Nat. Mus., viii, no. 23, Sept. 2, 1885, 356; Ibis, 1886, 463.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 470*a*.—ANTHONY, Auk, ix, 1902, 364 (Grant Co., s. w. New Mexico).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 321.—LUSK, Condor, iii, 1901, 38–41 (Chiricahua Mts.; Arizona; nesting habits; descr. nest and eggs).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 263.—SWARTH Pacific Coast Avifauna, no. 4, 1904, 27 (Huachuca Mts., Arizona; breeding habits; descr. nest and eggs).

E[mpidonax] fulvifrons pygmæus RIDGWAY, Man. N. Am. Birds, 1887, 345.

E[mpidonax] f[ulvifrons] pygmæus COUES, Key N. Am. Birds, 5th ed., i, 1903, 532.

Empidonax f[ulvifrons] pygmæus SWARTH, Condor, vii, 1905, 79 (Santa Rita Mts., Arizona, in pine belt).

Mitrephorus pallescens COUES, Proc. Ac. Nat. Sci. Philad., 1866, 63 (Fort Whipple, Arizona; coll. U. S. Nat. Mus.).—COOPER, Orn. Cal., 1870, 386 (Arizona).

Mitrephorus palescens BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 44, fig. 13.

[*Mitrephorus*] *fulvifrons*, var. *pallescens* COUES, Key N. Am. Birds, 1872, 176.

Mitrephorus fulvifrons . . . var. *pallescens* COUES, Check List, 1873, no. 262.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1874, 128 (Inscription Rock, New Mexico; Apache, Arizona); Zool. Exped. W. 100th Merid., 1875, 364 (Inscription Rock, New Mexico; Bowie and Apache, Arizona).

Mitrephorus fulvifrons, var. *pallescens* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 385, 386.

[*Empidonax fulvifrons* var. *pallescens*] b. *pallescens* COUES, Birds Northwest, 1874, 259.

Mitrephorus fulvifrons pallescens COUES, Check List, 2d ed., 1882, no. 392.

M[itrephanes fulvifrons] var. *pallescens* COUES, Bull. Nutt. Orn. Club, vii, Jan. 1882, 55.

M[itrephanes] fulvifrons pallescens COUES, Key N. Am. Birds, 2d ed., 1884, 443.

Empidonax fulvifrons pallescens RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 187, 218; Nom. N. Am. Birds, 1881, no. 329*a*; Proc. Biol. Soc. Washington, ii, 1884, 109 (crit.).—BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 73 (Chiricahua Mts., Arizona); vii, 1882, 207 (Santa Rita and Chiricahua Mts., Arizona; Fort Bayard, New Mexico).

[*Pyrocephalus*] *cinnamomeus* "Sw[ainson]" GRAY, Hand-list, i, 1869, 361, no. 5488, part.

Mitrephorus fulvifrons (not *Muscicapa fulvifrons* Giraud) ELLIOT, Illust. N. Am. Birds, i, 1869, pl. 19.

Empidonax fulvifrons SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 222 (synonymy, part).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 69 (Arizona; New Mexico; Tutuaca and Rio Verde, Chihuahua).

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EMPIDONAX FULVIFRONS RUBICUNDUS (Cabanis and Heine).

RUDDY FLYCATCHER.

Similar to *E. f. pygmæus*, but more deeply colored, the upper parts browner, the under parts more deeply and more extensively tawny-buff or sandy clay color; young deep olive-brown (nearly raw umber) above, the pileum darker and duller, and with wing-bands cinnamon; averaging slightly larger.

Adult male.—Length (skins), 109–121 (115); wing, 58.5–64.5 (62.5); tail, 46.5–54.5 (50.5); exposed culmen, 9.5–10.5 (10.1); tarsus, 14.5–15.5 (14.6); middle toe, 7.5–9 (8.1).[a]

Adult female.—Length (skins), 106–122 (111); wing, 55.5–62.5 (60.5); tail, 45–53 (48.9); exposed culmen, 9.5–10.5 (10); tarsus, 13.5–15 (14.3); middle toe, 7.5–8 (7.8).[b]

Central and southern Mexico, in States of Durango (El Salto), southern Chihuahua (Colonia Garcia), Jalisco (La Laguna), Michoacan (Patamban; Uruapam; Patzcuaro), Morelos (Tetela del Volcan), Hidalgo (Tulancingo), Mexico (City of Mexico; Ixtapalapa; Hacienda Eslava; Huipulco; Coapa; Mexicalcingo; Culhuacan; Axotla; Chimalpa; Cojimalpa; Salazar; Tlalpam), Pueblo (Huehuetlan), Vera Cruz (Las Vigas), Oaxaca, Guerrero (Amula; Omilteme), and Chiapas (Tenejapa), and Territory of Tepic (Santa Teresa); highlands of Guatemala (Dueñas; Quezaltenango)?[c]

Empidonax fulvifrons (not *Muscicapa fulvifrons* Giraud) Sclater, Proc. Zool. Soc. Lond., 1858, 301 (Oaxaca; crit.); Cat. Birds Brit. Mus., xiv, 1888, 222, part (Mexico; Quezaltenango and Dueñas, Guatemala?[d]).—Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 69, part (Amula and Omilteme, Guerrero; localities near City of Mexico; Huehuetlan, Puebla; Quezaltenango and Dueñas, Guatemala[d]).—Chapman, Bull. Am. Mus. N. H., x, 1898, 42 (Las Vigas, Vera Cruz, 8,000 ft.; descr. nest).

[*Empidonax*] *fulvifrons* Sclater and Salvin, Nom. Av. Neotr., 1873, 52.

Mitrephorus fulvifrons Sclater, Ibis, 1859, 442 (Oaxaca); Cat. Am. Birds, 1862, 228 (Mexico).—Sclater and Salvin, Ibis, 1860, 275 (Dueñas, Guatemala).[d]

[*Empidonax fulvifrons* var. *pallescens*.] a. *fulvifrons* Coues, Birds Northwest, 1874, 259, chiefly.

E[mpidonax] rubicundus Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 70, footnote (Mexico; coll. Berlin Mus.; ex *Muscicapa rubicunda* Lichtenstein, manuscript).

[*Empidonax*] *rubicundus* Sharpe, Hand-list, iii, 1901, 137.

Empidonax fulvifrons rubicundus Ridgway, Proc. Biol. Soc. Washington, ii, Apr. 28, 1884, 109, 110 (crit.); Ibis, 1886, 463.—Ferrari-Perez, Proc. U. S. Nat. Mus., ix, 1886, 154 (Huehuetlan, Puebla).—Ridgway, Proc. U. S. Nat. Mus., ix, 1886, 154 (Huehuetlan; crit.).

E[mpidonax] fulvifrons rubicundus Ridgway, Man. N. Am. Birds, 1887, 345.

[*Pyrocephalus*] *cinnamomeus* "Sw[ainson]" Gray, Hand-list, i, 1869, 361, no. 5488, part.

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[a] Twelve specimens.

[b] Five specimens.

[c] Guatemalan specimens perhaps referable to *E. f. fusciceps*.

[d] These Guatemalan localities may pertain to *E. f. fusciceps*.

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EMPIDONAX FULVIFRONS FUSCICEPS Nelson.

COMITAN FLYCATCHER.

Similar to *E. f. rubicundus*, but with pileum and hindneck dusky grayish, sooty grayish, or grayish sepia, in more or less strong contrast with olive-brown of back, etc.

Adult male.—Length (skin), 117; wing, 63; tail, 53.5; exposed culmen, 10.5; tarsus, 14.5; middle toe, 7.5.[a]

Adult female.—Length (skins), 114–115.5 (115); wing, 58; tail, 46–48 (47); exposed culmen, 10.5; tarsus, 14–14.5 (14.2); middle toe, 8–8.5 (8.2).[b]

State of Chiapas, southern Mexico (Comitan; Teopisca; Tenejapa).

? *Mitrephorus fulvifrons* Sclater and Salvin, Ibis, 1860, 275 (Dueñas, Guatemala).

? [*Empidonax*] *fulvifrons* Sclater and Salvin, Nom. Av. Neot., 1873, 52, part.

? *Empidonax fulvifrons* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 222, part (Quezaltenango and Dueñas, Guatemala).—Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 69, part (Quezaltenango and Dueñas, Guatemala).

Empidonax fulvifrons fusciceps Nelson, Proc. Biol. Soc., xvii, Oct. 6, 1904, 152 (Comitan, Chiapas; coll. U. S. Nat. Mus.).

Genus SAYORNIS Bonaparte.

Sayornis Bonaparte, Ann. Sci. Nat., sér. 4, Zool., i, 1854, 133; Not. Orn. Coll. Delattre, 1854, 87. (Type, *Tyrannula nigricans* Swainson.)

Sayiornis (emendation) Coues, Check List, 2d ed., 1882, 69.

Aulanax Cabanis, Journ. für Orn., 1856, 2. (Type, *Tyrannula nigricans* Swainson.)

Aulonax (emendation) Sundevall, Met. Nat. Av. Disp. Tent., 1872, 59.

Thermomyias[c] Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 68. (Type, *Muscicapa saya* Bonaparte.)

Empidias[d] Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 69. (Type, *Muscicapa fusca* Gmelin, = *M. phœbe* Latham.)

Medium-sized Tyrannidæ (wing about 80–110 mm.) with exposed culmen decidedly shorter than middle toe with claw, bill narrow (its width at frontal antiæ equal to less than half the length of exposed culmen and much less than twice its width at same point), not constricted terminally in vertical profile, and with coloration plain grayish brown or dusky above, darker (sometimes blackish) on pileum, the wings dusky with paler (sometimes white and conspicuous) edgings, the under parts whitish, blackish with whitish abdomen, or light grayish brown anteriorly, passing into cinnamon-buff posteriorly.

Bill much shorter than head, narrow and moderately depressed basally, its width at frontal antiæ equal to less than half the length of exposed culmen and much less than twice its depth at same point,

[a] One specimen (the type).

[b] Two specimens.

[c] "Von θηζάω (jagen) und μυῖας (Fliegenfaüger.)"

[d] "Von Ἐμπὶς (Mücke) wie μυῖας von μυῖα gebildet."

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rather narrowly wedge-shaped in vertical profile, with lateral outlines straight and tip not constricted; exposed culmen longer than middle toe without, but shorter than middle toe with claw, rather indistinctly ridged, straight to near tip where abruptly decurved, the tip of maxilla moderately uncinate; gonys much longer than mandibular rami, very faintly convex; maxillary tomium straight, distinctly notched subterminally. Nostril at least partly exposed, rather small, longitudinally oval, without distinct, if any, superior membrane. Rictal bristles moderately developed, the feathers of chin and frontal antiæ with distinct bristly points, the former recurved, the latter decurved, arching over nostrils; malar apex with distinct antrorse or semierect bristles. Wing rather long and pointed, the longest primaries exceeding distal secondaries by decidedly more than length of tarsus; seventh, eighth, and ninth primaries longest and nearly equal, the tenth (outermost) intermediate between fourth and fifth or fifth and sixth. Tail more than three-fourths to nearly nine-tenths as long as wing (decidedly longer than distance from bend of wing to end of distal secondaries), even, slightly emarginated or slightly double-rounded, very slightly divaricate terminally (except in *S. saya*), the rectrices widening terminally (except in *S. saya*). Tarsus less than one-fifth (*S. saya*) to decidedly more than one-fifth (*S. phœbe, S. nigricans*) as long as wing, much longer than middle toe with claw, its scutellation typically exaspidean but with a distinct series of longitudinal scutella along upper posterior edge of outer side of tarsus; middle toe, without claw, decidedly more than half as long as tarsus, its basal phalanx united to outer toe for more than half its length, to inner toe for half its length, or less; outer toe, without claw, reaching to about middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux about as long as inner toe, not conspicuously stouter, its claw nearly as long as the digit; all the claws rather large, moderately curved, sharp, compressed.

Coloration.—Above plain brownish gray, with tail black, or grayish olive or dusky, with pileum blackish, the wings with paler (sometimes white and conspicuous) edgings; beneath pale grayish brown passing into cinnamon-buff posteriorly, whitish with grayish olive on sides of breast, or blackish with white on abdomen.

Nidification.—Nest open above, bulky, composed of various vegetable materials, usually covered outside with green moss, placed in crevices or on shelves of rocky banks or cliffs, in culverts, on beams or braces underneath bridges, porches, in outbuildings, etc., sometimes among roots of uprooted trees, and other similar places. Eggs white, immaculate or sparingly speckled with brown.

Range.—Northern North America to Peru and Bolivia. (About eight species and subspecies.)

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KEY TO THE SPECIES AND SUBSPECIES OF SAYORNIS.

a. Abdomen white or pale yellow; outermost (tenth) primary not longer than fifth; wing very little longer than tail. (*Sayornis.*)

b. Above grayish olive; under parts mostly dull white or very pale yellow. (Eastern temperate North America, south in winter to Cuba and southern Mexico.)

Sayornis phœbe (p. 594)

bb. Upper parts blackish (the back more slaty); under parts dull black, except abdomen and (sometimes) under tail-coverts. (*Sayornis nigricans.*)

c. Under tail-coverts mostly or wholly white. (Mexico to Oregon.)

Sayornis nigricans nigricans (p. 597)

cc. Under tail-coverts mostly or wholly dusky.

d. Wing without white bands; white edging to secondaries narrower.

e. Back more slaty; under tail-coverts partly whitish or pale grayish (Guatemala.)..... **Sayornis nigricans aquatica** (p. 600)

ee. Back sooty black or dull slate-black; under tail-coverts wholly dusky. (Costa Rica and Northern Panama; Nicaragua?)

Sayornis nigricans amnicola (p. 601)

dd. Wing with two white bands (across tip of middle and greater coverts); white edging of secondaries broader. (Columbia to Venezuela, Peru, and Bolivia.)..... **Sayornis nigricans cineracea** (extralimital)[a]

aa. Abdomen cinnamon-buff; outermost (tenth) primary longer than sixth; wing much longer than tail. (*Thermomyias.*) (Western North America, from Mexico to Alaska.)..... **Sayornis saya** (p. 602)

SAYORNIS PHŒBE (Latham).

PHŒBE.

Adults in spring[b] (*sexes alike*).—Pileum, sides of head, and hind-neck dark sooty brown; back, scapulars, lesser wing-coverts, rump, and upper tail-coverts, plain grayish olive, paler posteriorly; tail

[a] *Tyrannula cineracea* Lafresnaye, Rev. Zool., 1848, 8, in text (Bogota, Colombia).—*Sayornis cineracea* Sclater, Cat. Am. Birds, 1862, 200 (Venezuela; Santa Marta, Colombia); Cat. Birds Brit. Mus., xiv, 1888, 34.—[*Tæniоptera*] *cineracea* Gray, Hand-list, i, 1869, 343, no. 5194.—[*Sayornis nigricans*] var. *cinerascens* Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 340.—*Sayornis nigricans*, var. *cineracens* Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 340, footnote.—(?) *A[ulanax] latirostis* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 68, footnote (Bolivia; coll. Berlin Mus.); Cabanis, Journ. für Orn., 1879, 335 (Bolivia; Tucuman, Argentina).—*Sayornis cineracea latirostris* Berlepsch, Journ. für Orn., Apr., 1887, 131 (Bolivia; Tucuman, Argentina).—*Sayornis ardosiacus* (not *Tyrannula ardosiaca* Lafresnaye) Cassin, Proc. Ac. Nat. Sci. Phila., 1860, 144 (Falls of Rio Truando, Colombia).—*M[yiarchus] nigricans* (not *Tyrannula nigricans* Swainson) Cabanis, in Tschudi's Fauna Peruana, Aves, 1845, 153; Taczanowski, Proc. Zool. Soc. Lond., 1874, 539 (Amable Maria and Santo Domiano, Peru).—*Sayornis nigricans* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883. 552 (Chimbo, w. Ecuador); Stone, Proc. Ac. Nat. Sci. Phila., 1899, 306 (Ibague, centr. Colombia.)

It is not unlikely that the above references pertain to two or more forms, but I have not the material necessary to enable me to determine the question. Another form has been separated as *Sayornis cineracea angustirostris* Berlepsch and Stolzman, Proc. Zool. Soc. Lond., 1896 (pub. Aug. 1), 357 (La Merced, centr. Peru; coll. Branicki Mus.).

[b] January to April, inclusive, the January birds being very slightly more yellowish beneath and more olive above, but far less so than specimens taken in December or earlier. After April the plumage becomes duller through abrasion.

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dusky grayish brown, the outer webs of rectrices passing into light grayish olive on edges, the outer web of exterior rectrix broadly edged with olive-whitish; wings dusky with pale grayish olive edgings, these most conspicuous on greater coverts and secondaries, on the innermost of the latter broader and more whitish; a slight admixture of dull whitish on lores (especially upper margin) and on lower eyelid; sides of neck similar in color to back but slightly paler; under parts dull yellowish white, the chin (sometimes upper throat also) more or less intermixed with dusky grayish, the sides of chest and breast light grayish olive; axillars and under wing-coverts yellowish white or pale primrose yellow, tinged with pale grayish, the coverts near margin of wing dusky grayish centrally; inner webs of remiges edged with very pale grayish buffy; bill black, the mandible more brownish; iris brown; legs and feet black.

Adults in autumn and winter.[a]—Similar to spring adults, but yellowish white of under parts replaced by primrose yellow, back, etc., more decidedly olive, and pale wing-edgings more yellowish.

Young.—Similar to adults, but upper parts browner, middle and greater wing-coverts rather broadly and abruptly tipped with cinnamon or ochraceous-buff (forming two conspicuous bands), and upper tail-coverts tinged with cinnamon.

Adult male.—Length (skins), 144–168 (157); wing, 81–90.5 (87.1); tail, 67–77.5 (72.5); exposed culmen, 13.5–16 (14.5); tarsus, 17.5–19.5 (18.1); middle toe, 10–11 (10.7).[b]

Adult female.—Length (skins), 142–165 (154); wing, 77–92 (83.3); tail, 63–75 (69.3); exposed culmen, 13.5–15 (14.4); tarsus, 16.5–19 (79); middle toe, 10–11 (10.5).[b]

Eastern United States and more southern British Provinces; north to Maine, northern New York (Adirondack region), northwestern Ontario (Parry Sound; Muskoka), Keewatin (Norway House; Hellgate Gorge; Pelican Narrows), and southern Mackenzie (Fort Simpson; Fort Resolution; Fort Rae); west, at least occasionally, to Athabasca (Little Slave Lake), eastern Wyoming (Beaver Creek, Black Hills), eastern Colorado, northeastern New Mexico (near Santa

[a] September to December, inclusive.

[b] Eighteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic States	87.9	71.8	14.5	18.3	10.6
Eight adult males from Mississippi Valley	86.9	73.4	14.6	17.9	10.8
FEMALES.					
Ten adult females from Atlantic States	82.9	69.1	14.4	17.1	10.1
Eight adult females from Mississippi Valley	83.3	69.3	14.4	17.9	10.5

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Rosa, breeding) and western Texas (Tom Green and Concho counties, breeding); breeding southward to highlands of South Carolina (Pickens and Greenville counties), Louisiana (St. Mary's Parish), etc.; winters chiefly within the United States (mostly south of 37°), but migrating to Cuba and eastern and central Mexico (Tampico, Matamoras and Camargo, Tamaulipas; Monterey, Nuevo Leon; Jalapa, Misantla, Orizaba, Mirador, and Antigua, Vera Cruz; Huachinango and Teziutlan, Puebla; San Antonio Coapa, Mexico; Tapana, Oaxaca; Pacific slope, Morelia); accidental in southern California (near San Fernando, Los Angeles County, February 14, 1901).

[*Muscicapa*] *fusca* (not of Müller, 1776, nor Boddaert, 1783) GMELIN, Syst. Nat., i, 1788, 931 (based on *Muscicapa carolinensis fusca* Brisson, Orn., ii, 367).—LATHAM, Index Orn., ii, 1790, 483.

Muscicapa fusca VIEILLOT, Ois. Am. Sept., i, 1807, 68, pl. 40; Enc. Méth., 1823, 829.—BONAPARTE, Synop. Birds U. S., 1828, 68.—AUDUBON, Orn. Biog., ii, 1834, 122; v, 1839, 424, pl. 120; Synopsis, 1839, 43; Birds Am., oct. ed., i, 1840, 223, pl. 63.—LEMBEYE, Aves de la Isla de Cuba, 1850, 41.

Tyrannula fusca RICHARDSON, List in Rep. Brit. Assoc., 1837.—BONAPARTE, Geog. and Comp. List, 1838, 24.

T[*yrannula*] *fusca* HARTLAUB, Syst. Verz., 1844, 49.

Tyrannus fuscus NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 312.

Myiarchus fuscus CABANIS, in Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 248.—SCLATER, Proc. Zool. Soc. Lond., 1859, 366 (Jalapa, Vera Cruz); Ibis, 1859, 440 (do.).

Aulanax fuscus CABANIS, Journ. für Orn., 1856, 1 (Cuba).—GUNDLACH, Journ. für Orn., 1861, 410 (Cuba; crit.); Orn. Cub., 1893, 88.

Sayornis fuscus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 184; Cat. N. Am. Birds, 1859, no. 135.—DRESSER, Ibis, 1865, 473 (San Antonio, Texas, in migr.; Houston, breeding?).—BUTCHER, Proc. Ac. Nat. Sci. Philad., 1868, 149 (Laredo, Texas, Nov.).—SUMICHRAST, Mem. Bost. Soc., i, 1869, 557.—ALLEN, Bull. Mus. Comp. Zool., ii, no. 3, 1871, 299 (e. Florida, winter); iii, 1872, 179 (e. Kansas).—COUES, Check List, 1873, no. 252; Birds Northwest, 1874, 241.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 343, pl. 45, fig. 3.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 315.—MERRIAM, Bull. Nutt. Orn. Club, vi, 1881, 231 (Adirondacks, New York, breeding.)—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 176 (descr. young).—BROWN (N. C.), Bull. Nutt. Orn. Club, vii, 1882, 40 (Boerne, Kendall Co., s. w. Texas, winter).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (Fort Fairfield and Houlton, Maine, rare).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 169 (s. c. Texas, winter).—LANGILLE, Our Native Birds, etc., 1884, 140–142 (habits; notes).—HARDY, Auk, ii, 1885, 108 (Brewer, Maine, 1 spec., Nov. 23, 1884).

E[*mpidias*] *fuscus* CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 69.

Empidias fuscus SCLATER, Cat. Am. Birds, 1862, 234; Cat. Birds Brit. Mus., xiv, 1888, 264 (near City of Mexico; Jalapa; etc.).—SALVIN, Cat. Strickland Coll., 1882, 316 (Pennsylvania).

[*Empidias*] *fuscus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 145.

Sayiornis fusca COUES, Check List, 2d ed., 1882, no. 379.

S[*ayiornis*] *fusca*, COUES, Key N. Am. Birds, 2d ed., 1884, 437.

[*Pyrocephalus*] *fuscus* GRAY, Hand-list, i, 1869, 363, no. 5539.

Sayornis fusca CORY, List Birds West Ind., 1885, 15.

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Muscicapa atra (not of Müller, 1776) GMELIN, Syst. Nat., i, 1788, 946 (based on *Dusky Flycatcher* Pennant, Arct. Zool., ii, 1785, 389).—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 278.

[*Muscicapa*] *phœbe* LATHAM, Index Orn., ii, 1790, 489 (new name for *Muscicapa atra* Gmelin, preoccupied).

Tyrannula phœbe BONAPARTE, Geog. and Comp. List, 1838, 24.

Sayornis phœbe STEJNEGER, Auk, ii, Jan., 1885, 51.—BICKNELL, Auk, ii, 1885, 254 (notes).—SETON, Auk, iii, 1886, 320 (Winnipeg, Manitoba, 1 pair).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 456.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 154 (Teziutlan, Puebla).—CORY, Auk, iii, 1886, 236 (Cuba); Birds West Ind., 1889, 123; Cat. West Ind. Birds, 1892, 109.—LLOYD, Auk, iv, 1887, 192 (Tom Green and Concho counties, w. Texas, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 149–151 (Mississippi Valley localities and migrations).—THORNE, Auk, vi, 1889, 276 (Fort Lyon, Colorado, 1 spec., Apr. 20, 1884).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 63 (Tierra Templada, w. slope Morelia, Mexico, etc.).—LOOMIS, Auk. vii, 1890, 39 (Pickens Co., South Carolina, breeding); viii, 1891, 328 (Caesars Head, South Carolina, breeding).—ALLEN, Bull. Am. Mus. N. H., v, 1893, 36 (San Diego, n. w. Chihuahua, 1 spec., Feb. 24).—NUTTING, Bull. Lab. N. H. State Univ. Iowa, ii, 1893, 272 (lower Saskatchewan, Manitoba, 1 spec.).—FLEMING, Auk, xviii, 1901, 39 (Parry Sound and Muskoka, n. w. Ontario, common).—CARY, Auk, xviii, 1901, 234 (Beaver Creek, Black Hills, Wyoming, 1 spec.).—SWARTH, Condor, iii, 1901, 66 (near San Fernando, Los Angeles Co., California, 1 spec., Feb. 14, 1901).—COOMBS, Auk, xix, 1902, 203 (St. Marys Parish, Louisiana, breeding).—WIDMANN, Auk, xix, 1902, 234 (Emmet Co., Michigan).—PREBLE, North Am. Fauna, no. 22, 1902, 113 (Norway House and Hellgate Gorge, Keewatin, breeding).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 254; Auk, xxi, 1904, 392 (Pecos R., n. e. New Mexico, near Santa Rosa, breeding).—CURRIER, Auk, xxi, 1904, 36 (Leech Lake, Minnesota, breeding).

S[ayornis] phœbe RIDGWAY, Man. N. Am. Birds, 1887, 336.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 522.

[*Sayornis*] *phœbe* SHARPE, Hand-list, iii, 1901, 136.

Muscicapa nunciola WILSON, Am. Orn., ii, 1810, 78, pl. 13, fig. 4 (Pennsylvania; ex Bartram, p. 289; Peale's Mus., no. 6618).

M[yiobius] nunciola GRAY, Gen. Birds, i, 1847, 248.

[*Tyrannula*] *nunciola* BONAPARTE, Consp. Av., i, 1850, 189.

Tyrannula nunciola WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 74 (Texas; Indian Territory).

Muscicapa lembeyei GUNDLACH, Journ. Bost. Soc. N. H., vi, pt. iii, 1853, 314 (near Cardenas, Cuba).

Myiarchus lembeyii BREWER, Proc. Bost. Soc. N. H., vii, 1860, 306.

[*Aulanax*] *lembeyei* GUNDLACH, Journ. für Orn., 1861, 328.

Aulanax lembeyei GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 240; Journ. für Orn., 1872, 427.

SAYORNIS NIGRICANS NIGRICANS (Swainson).

BLACK PHŒBE.

Adults (*sexes alike*).—General color plain dark sooty slate, the head darker (almost black), the back, scapulars, rump, and upper tail-coverts brownish slate color; abdomen, anal region, and under tail-coverts white, the last sometimes (in all specimens from central, eastern, and southern Mexico, and some from Lower California)

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frequently streaked mesially (more or less broadly) with dusky;[a] middle wing-coverts broadly tipped or terminally margined (more or less distinctly) with brownish gray; greater coverts edged with brownish gray and tipped with the same or paler brownish gray; secondaries edged with pale brownish gray or dull white; outer web of lateral rectrix edged (more or less broadly) with white; axillars and under wing-coverts dark sooty gray or brownish slate, their outer webs mostly white and inner webs extensively white at tip; inner webs of remiges edged with pale brownish gray; bill black, the mandible more brownish, especially toward base; iris brown; legs and feet brownish black.

Young.—Similar to adults, but general color more sooty, the feathers of lower back, hinder scapulars, rump, and upper tail-coverts indistinctly tipped with pale brownish; wing-coverts tipped with cinnamon or light rusty; white of under parts suffused along border with brown or rusty.

Adult male.—Length (skins), 152–181 (165); wing, 84–96 (91.5); tail, 71–84 (79.9); exposed culmen, 14–16.5 (15.5); tarsus, 17.5–19.5 (18.4); middle toe, 9.5–11 (10.5).[b]

Adult female.—Length (skins), 147–176 (160); wing, 81–93.5 (86.5); tail, 68–80 (74.9); exposed culmen, 14–16 (14.9); tarsus, 15.5–18 (17.4); middle toe, 9.5–11 (10.3).[c]

[a] So far as the collection of the U. S. National Museum, including that of the Biological Survey, is concerned, the difference in coloration of the under tail-coverts between specimens from California, Arizona, and western Mexico on the one hand, and those from central, eastern, and southern Mexico on the other, mentioned by Mr. Nelson (Auk, xvii, 1900, 124, 125) certainly exists, with remarkable uniformity; and were it not for Mr. Brewster's later observations on the subject (Bull. Mus. Comp. Zool., xli, 1902, 119) I would unhesitatingly adopt Mr. Nelson's division of the northern representatives of the species into two forms, *S. n. nigricans* and *S. n. semiatra*, since in the series examined the difference is both conspicuous and strictly geographic.

[b] Twenty specimens.

[c] Sixteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from California (white under tail-coverts)	91.7	80.4	15.4	18.1	10.3
Ten adult males from Arizona, Sonora, and Chihuahua (white under tail-coverts)	91.2	78.7	15.6	18.6	10.7
Seven adult males from central, eastern, and southern Mexico (streaked under tail-coverts)	92.3	76.9	14.8	17.9	10.6
FEMALES.					
Four adult females from California (white under tail-coverts)	89.5	77.5	15.1	17.5	10.4
Five adult females from Arizona (white under tail-coverts)	85.5	74.1	15	17.4	10.5
One adult female from Sinaloa (white under tail-coverts)	89.5	74	16	18	10
Six adult females from central, southern, and eastern Mexico (streaked under tail-coverts)	84.7	73.2	14.3	17.2	10.2

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Pacific coast district of United States, in California (west of the Sierra Nevada) and southwestern Oregon (Umpqua valley; Salem); thence southward to Cape San Lucas district, Lower California, eastward through southern California (north, east of Sierra Nevada, to Death Valley, Panamint Valley, and Argus Range), southern Arizona, and southern New Mexico to western Texas (Spring Creek, Tom Green County; San Angelo), and southward over whole of Mexico, except humid Atlantic coast district and Yucatan, to Chiapas (Chicharros); occasional in winter in Costa Rica (San José).[a] Mexican localities are, in part, as follows: Sonora (Hermosilla; Espia). Chihuahua (Colonia Pacheco; Colonia Garcia). Nuevo Leon (Calderito; Santa Catarina). Queretaro (Cadereyto). Guanajuato (Moro Leon; Tupátaro). Sinaloa (Escuinapa; Mazatlan; Presidio near Mazatlan). Jalisco (Atemajac; Ocotlan). Michoacan (La Salada; Morelia). Morelos (Cuernavaca). Mexico (Valley of Mexico; Chimalpa; Coapa; Mexicalcingo; Ixtapalapa; Culhuacan). Puebla (Atlixco; Rio de la Huexotitla). Vera Cruz (Orizaba; Texolo; Cordova; Buena Vista). Oaxaca (Cinco Señores; Tehuantepec). Guerrero (Vente de Zopilote). Chiapas (Chicharros).[b]

Tyrannula nigricans SWAINSON, Philos. Mag., n. s., i, May, 1827, 367 (Mexico).—BONAPARTE, Geog. and Comp. List, 1838, 24.

T[yrannula] nigricans BONAPARTE, Consp. Av., i, 1850, 189 (Mexico; w. North America).

Myiarchus nigricans (not of Cabanis, 1845) DUGÈS, La Naturaleza, i, 1869, 141 (Guanajuato).

M[yiobius] nigricans GRAY, Gen. Birds, i, 1847, 249.

Myiobius nigricans GAMBEL, Journ. Ac. Nat. Sci. Philad., i, 1847, 39 (California; habits).

Muscicapa nigricans AUDUBON, Orn. Biog., v, 1839, 302, pl. 474; Synopsis, 1839, 41; Birds Am., oct. ed., i, 1840, 218, pl. 60.

Tyrannus nigricans NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 326.

Sayornis nigricans SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz); 1857, 127 (San José, California); 1859, 383 (Cinco Señores, Oaxaca); 1864, 175 (Valley of Mexico); Ibis, 1859, 438 (Cordova, etc.; crit.); Cat. Am. Birds, 1862, 200; Cat. Birds Brit. Mus., xiv, 1888, 33.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 183; Cat. N. Am. Birds, 1859, no. 134; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 8 (Espia and Cadereita, n. Mexico).—HENRY, Proc. Ac. Nat. Sci. Philad., 1859, 106 (Rio Mimbres, New Mexico).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (temperate and alpine regions, Vera Cruz).—COOPER, Orn. Cal., 1870, 319.—COUES, Check List, 1873, no. 251.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 340, pl. 45, fig. 1.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 285 (Mazatlan).—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 347 (s. Arizona and New Mexico; habits).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 25 (Tehuan-

[a] Specimens in collection of Museo Nacional de Costa Rica and in collection of United States National Museum.

[b] The specimen referred to by Mr. Nelson as from the Plains of Colima unquestionably is not from there, but, like a number of other specimens from the same collection bearing the same locality name, almost certainly came from California.

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tepec City).—RIDGWAY, Orn. 40th Parallel, 1877, 534 (Sacramento, California); Nom. N. Am. Birds, 1881, no. 317.—BREWSTER, Bull. Nutt. Orn. Club, iv, 1879, 42 (descr. young); vii, 1882, 205 (Arizona; breeding habits); Bull. Mus. Comp. Zool., xli, 1902, 119 (Cape St. Lucas district, resident; crit.).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 154 (Rio de Huexotitla, Puebla).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 458.—SCOTT, Auk, iv, 1887, 18 (Santa Catalina Mts., 4,000 ft., s. Arizona, breeding).—LLOYD, Auk, iv, 1887, 192 (Tom Green Co., w. Texas, breeding).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 542 (Cape San Lucas).—COOKE, Bird Migr. Miss. Val., 1888, 152 (Spring Creek, Tom Green Co. and San Angelo, Texas, breeding).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 64.—JOUY, Proc. U. S. Nat. Mus., xvi, 1893, 782 (Jalisco).—NELSON, Auk, xvii, 1900, 124 (Mexico, except Yucatan and Pacific coast north of Colima; Texas; New Mexico; s. e. Arizona; crit.).—BAILEY, (Florence M.), Handb. Birds W. U. S., 1902, 255.—SWARTH, Pacific coast Avifauna, no. 4, 1904, 23 (Huachuca Mts., Arizona, breeding up to 6,000 ft.).

[*Sayornis*] *nigricans* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 43.—SHARPE, Hand-list, iii, 1901, 136.

S[*ayornis*] *nigricans* RIDGWAY, Man. N. Am. Birds, 1887, 336.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 522.

Sayiornis nigricans COUES, Check List, 2d ed., 1881, no. 378.

S[*ayiornis*] *nigricans* COUES, Key N. Am. Birds, 2d ed., 1884, 437.

[*Sayornis nigricans*] var. *nigricans* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 340.

Sayornis nigricans nigricans MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 357 (Escuinapa, Sinaloa, Oct.; crit.).

Sayornis nigrescens (error) ANTHONY, Zoe, iv, 1893, 238 (San Pedro Martir Mts., Lower California; resident up to 3,000 ft.).

A[*ulanax*] *nigricans* CABANIS, Journ. für Orn., iv, Jan., 1856, 2.—CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 68 (Mexico).

[*Aulanax*] *nigricans* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 145 (Mexico).

[*Tæniopteru*] *nigricans* GRAY, Hand-list, i, 1869, 343, no. 5191.

Muscicapa atrata LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 2; Journ. für Orn., 1863, 58 (reprint).

Muscicapa semiatra VIGORS, Zool. Voy. "Blossom," 1839, 17 (no locality mentioned).

Sayornis nigricans semiatra NELSON, Auk, xvii, Apr., 1900, 125 (Pacific coast of Mexico north of Colima, and north to Oregon; most of Arizona; crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xviii, 1901, 301.—MAILLIARD, Condor, iii, 1901, 123 (San Benito Co., California, resident).—GRINNELL, Check List Birds Calif., 1902, 42.

S[*ayornis*] *n*[*igricans*] *semiatra* BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 256.

[*Sayornis*] *semiatra* SHARPE, Hand-list, iii, 1901, 137.

SAYORNIS NIGRICANS AQUATICA (Sclater and Salvin).

GUATAMALAN PHŒBE.

Similar to *S. n. nigricans*, but white abdominal area more restricted and under tail-coverts mostly sooty gray or dusky.

[Owing to the circumstance that I have been able to examine a single specimen only of this form, and that with sex undetermined, I am not able to give measurements.]

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Highlands of Guatemala (Dueñas; Quezaltenango; Retalhuleu; Escuintla; San Gerónimo; Rio Michatoya, near San Pedro Martir).

Sayornis aquatica SCLATER and SALVIN, Ibis, i, Apr., 1859, 119. (Dueñas, Guatemala; coll. Salvin and Godman).—SCLATER, Cat. Am. Birds, 1862, 200 (Dueñas); Cat. Birds Brit. Mus., xiv, 1888, 33, part (Dueñas, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 65, part (Quezaltenango, Dueñas, Retalhuleu, Escuintla, Rio Michatoya, and San Gerónimo, Guatemala).

[*Sayornis*] *aquatica* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 43, part (Guatemala).—SHARPE, Hand-list, iii, 1901, 137, part.

Sayornis nigricans, var. *aquatica* RIDGWAY, Am. Journ. Sci. and Arts, Dec., 1872, 456, part.

Sayornis nigricans var. *aquaticus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 340, part (Guatemala).

A[*ulanax*] *aquaticus* CABANIS and HEINE, Mus. Hein., ii, 1859, 68, footnote (Guatemala).

[*Tæniopter*a] *aquatica* GRAY, Hand-list, i, 1869, 343, no. 5192.

Sayornis nigricans aquatica NELSON, Auk, xvii, Apr., 1900, 125, part (Guatemala).

SAYORNIS NIGRICANS AMNICOLA (Bangs).

PANAMA PHŒBE.

Similar to *S. n. aquatica*, but with white abdominal area still more restricted, under tail-coverts wholly dusky, and color of back decidedly darker (slate-black instead of brownish slate).

Adult male.—Length (skins), 147–161 (155); wing, 80–88 (85.2); tail, 69–77.5 (74.9); exposed culmen, 15–16 (15.5); tarsus, 16.5–18 (17.4); middle toe, 10–10.5 (10.1).[a]

Adult female.—Length (skins), 149–164 (155); wing, 80–86 (83.2); tail, 71–75.5 (72.9); exposed culmen, 13.5–15 (14.1); tarsus, 16.5–17.5 (17.1); middle toe, 9.5–10.5 (10).[b]

Highlands of Costa Rica (San José; Alajuela; San Pedro; Navarro) and western Panama (Boquete); Nicaragua?

(?) *Sayornis nigricans* (not *Tyrannula nigricans* Swainson ?) BONAPARTE, Compt. Rend., xxxviii, 1854, 657 (Nicaragua); Notes Orn. Coll. Delattre, 1854, 87 (do.).

Aulanax aquaticus (not *Sayornis aquatica* Sclater and Salvin) CABANIS, Journ. für Orn., 1861, 247 (Costa Rica).

[a] Four specimens.

[b] Five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Costa Rica	84.3	74	15.3	17.2	10
One adult male from Panama (Boquete)	88	77.5	16	18	10.5
FEMALES.					
Three adult females from Costa Rica	82.5	72.7	13.7	17.3	10
Two adult females from Panama (Boquete)	84.3	73.3	14.8	16.8	10

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[*Aulanax*] *aquaticus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 145 (Costa Rica).

Sayornis aquatica (not of Sclater and Salvin) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 110 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 306 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 62 (San José, Costa Rica; habits).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 33, part (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 65, part (Costa Rica; Nicaragua ?).—ALFARO, Paginas Illustradas, i, 1904, 505 (Costa Rica; habits; descr. nest and eggs).

[*Sayornis*] *aquatica* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 43, part (Costa Rica).—SHARPE, Hand-list, iii, 1901, 137, part (Costa Rica).

Sayornis nigricans var. *aquatica* RIDGWAY, Am. Journ. Sci. and Arts, Dec., 1872, 456, part (Costa Rica).

Sayornis nigricans var. *aquaticus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 340, part (Costa Rica).

Sayornis nigricans aquatica NELSON, Auk, xvii, 1900, 125, part (Costa Rica).

Sayornis amnicola BANGS, Proc. New Engl. Zool. Club, iii, Jan. 30, 1902, 37 (Boquete, Panama, 4,000 ft.; coll. E. A. and O. Bangs).

SAYORNIS SAYA (Bonaparte).

SAY'S PHŒBE.

Adults (*sexes alike*).—Above plain brownish gray, the pileum and hindneck decidedly darker; upper tail-coverts dusky grayish, usually margined with paler; tail brownish black, the outer web of lateral rectrix more or less distinctly edged with whitish; wings deep brownish gray with pale brownish gray edgings, these broader and approaching dull whitish on inner secondaries and terminal portion of greater coverts; sides of head and neck similar in color to upper portions, changing gradually below into the pale buffy brownish gray of chin and throat; chest and sides of breast light buffy brownish gray, the median portion of chest usually more strongly tinged with buff; rest of under parts cinnamon-buff; axillars and under wing-coverts pale buff or cream-buff; inner webs of remiges edged with buffy whitish; bill, legs, and feet black; iris brown.

Young.—Similar to adults, but upper parts browner, and middle and greater wing-coverts broadly tipped with cinnamon or cinnamon-buff (forming two distinct bands).

Adult male.—Length (skins), 158–182 (174); wing, 100.5–111 (105.5); tail, 77–87 (81.7); exposed culmen, 14.5–17 (15.7); tarsus, 18.5–22 (20.4); middle toe, 11.5–13 (11.9).[a]

Adult female.—Length (skins), 164–182 (173); wing, 95.5–104.5 (101); tail, 75.5–86 (78.6); exposed culmen, 13.5–18 (14.4); tarsus, 18.5–21 (19.6); middle toe, 10.5–12 (11.6).[b]

Western North America; north to Alaska (Fort Yukon; 20 miles above Circle; Glacier; mountains near Eagle; Sixty-mile Creek; Chulitna River), Yukon Territory (Fort Selkirk; 50 miles below Fort

[a] Twenty-two specimens. [b] Seventeen specimens.

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Reliance; Bennett; Lake Clark), and southern Mackenzie (Fort Simpson; Fort Carlton); east to Manitoba (Plains of Saskatchewan), eastern Wyoming (Black Hills, breeding), western Kansas (Ellis; Rooks County), middle Kansas (more rarely), and (in winter) to coast of Texas (Corpus Christi; Beeville)—accidentally to Wisconsin (Racine and northeastern Illinois (West Northfield, Cook County, two specimens); breeding southward to southern New Mexico (Grant County), southern Arizona (Tucson; Huachuca Mountains; Catalina Mountains; St. Johns, Apache County), and Lower California (Valladeros)—probably breeding in northern and perhaps central Mexico; southward in winter over northern and central Mexico, in States of Sonora (Espia, etc.), Chihuahua (Guzman; Colonia Diaz; Caretas; La Mula; Chupadero; Rio Florido), Tamaulipas (Matamoras; Nuevo Laredo), San Luis Potosi, Hidalgo (Real del Monte; Tula), Guanajuato, Durango (Lerdo), Mexico (Valley of Mexico; Salazar; Hacienda Esclava; Culhuacan; Mexicalcingo; Ixtapalapa; San Antonio Coapa; Chimalpa; Coajimalpa), Puebla (Chapulco; Atlixco), and Vera Cruz (Orizaba; Jalapa).

Muscicapa saya BONAPARTE, Am. Orn., i, 1825, 20, pl. 11, fig. 3 (Arkansas R., near Rocky Mts., breeding).—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 277.—AUDUBON, Orn. Biog., iv, 1838, 428, pl. 359; Synopsis, 1839, 41; Birds Am., oct. ed., i, 1840, 217, pl. 59.

Tyrannula saya SWAINSON, Fauna Bor.-Am., ii, 1831, 142, pl. 45.—BONAPARTE, Geog. and Comp. List, 1838, 24.—NEWBERRY, Rep. Pacific R. R. Surv., vi, 1857, 81 (California and Oregon).—WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 74 (w. Texas; New Mexico).

[*Tyrannula*] *saya* BONAPARTE, Consp. Av., i, 1850, 189.

"*Tyrannula sayii*? SWAINSON, Ornithological Drawings, pl. 70."

Tyrannus saya NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 311.

Ochthoeca saya CABANIS, in Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 255.

M[yiobius] saya GRAY, Genera Birds, i, 1847, 249.—GAMBEL, Journ. Ac. Nat. Sci. Philad., i, 1847, 38 (California).

Tyrannus sayi MAXIMILIAN, Journ. für Orn., 1858, 183.

A[ulanax] sayus CABANIS, Journ. für Orn., 1856, 2.

Sayornis sayus BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 185; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 9; Cat. N. Am. Birds, 1859, no. 136.—BLAKISTON, Ibis, 1862, 4 (Plains of the Saskatchewan); 1863, 57 (Fort Carleton, lat. 53°; Mackenzie R.).—DRESSER, Ibis, 1865, 473 (San Antonio, Texas, Nov.).—BROWN, Ibis, 1868, 427 (Vancouver I.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (highlands of Vera Cruz).—COOPER, Orn. Cal., i, 1870, 320.—COUES, Check List, 1873, no. 250; Birds Northwest, 1874, 240.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 347, pl. 45, fig. 2.—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 349 (nesting, etc.).—SNOW, Obs. Nat., iii, 1876 (Rooks Co. and Ellis, w. Kansas, breeding).—NELSON, Bull. Essex Inst., viii, 1876, 113 (West Northfield, Cook Co., Illinois, 2 specimens; near Racine, Wisconsin).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 25 (Chapulco, Puebla, Mexico).—BENDIRE, Proc. Bost. Soc. N. H., 1877, 127 (Fort Lapwai, Idaho, breeding; Camp Harney, e. Oregon, migrat.).—RIDGWAY, Orn. 40th Parallel, 1877, 534 (West Humboldt Mts., Carson City, Pyramid Lake, Humboldt Desert, and Carson Desert, Nevada, breeding).—

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NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 169 (s. e. Texas).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 154 (Chapulco and Puebla, Puebla, Dec.).

[*Sayornis*] *sayus* COUES, Key N. Am. Birds, 1872, 172.

Sayornis sayi COUES, Bull. Nutt. Orn. Club, v, Apr., 1880, 99.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 186; Nom. N. Am. Birds, 1881, no. 316.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 205 (Arizona; habits).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 531 (Cerros Island, Lower California), 541 (Cape San Lucas).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains to 8,000 ft.).

S[*ayornis*] *sayi* RIDGWAY, Bull. Ills. State Labr. N. H., no. 4, 1881, 184 (n. Illinois, accidental).

Sayiornis sayi COUES, Check List, 2d ed., 1882, no. 377.

S[*ayiornis*] *sayi* COUES, Key N. Am. Birds, 2d ed., 1884, 437.

Sayornis saya AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 457.—TURNER, Contr. Nat. Hist. Alaska, 1886, 166 (Fort Yukon).—NELSON, Nat. Hist. Coll. Alaska, 1887, 161 (Fort Reliance; upper Yukon).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 667 (Corpus Christi and Beeville, Texas).—COOKE, Bird Migr. Miss. Val., 1888, 151 (Mississippi Valley localities).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 62 (Mexican localities).—MILLER, Auk, vii, 1890, 228 (Cape Cod, Massachusetts, 1 spec., Sept. 30, 1889).—MERRIAM, North Am. Fauna, no. 5, 1891, 98 (lower Lemhi Valley and Fort Lapwai, Idaho).—GOSS, Hist. Birds Kansas, 1891, 362 (common in w. Kansas, occasional in middle Kansas; breeding).—ANTHONY, Auk, ix, 1892, 363 (Grant Co., s. w. New Mexico, breeding).—THORNE, Auk, xii, 1895, 215 (Fort Keogh, Montana, breeding).—MITCHELL, Auk, xv, 1898, 309 (San Miguel Co., New Mexico, breeding).—LANTZ, Trans. Kansas Ac. Sci. for 1896-97 (1899), 222 (Lerdo, Durango; Rio Florido, Chihuahua).—CARY, Auk, xviii, 1901, 234 (Black Hills, Wyoming, breeding).—MAILLIARD, Condor, iii, 1901. 123 (San Benito Co., California, resident).—BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 118 (Cape San Lucas district, winter).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 255.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 23 (Huachuca Mts., Arizona, breeding).—OSGOOD, North Am. Fauna, no. 24, 1904, 70 (Chulitna R., Alaska).—MONTGOMERY, Auk, xxii, 1905, 14 (Altudo, Brewster Co., Texas).—GRINNELL (J.), Auk, xxii, 1905, 384 (Mount Pinos, California, breeding at 5,500 ft.).

S[*ayornis*] *saya* RIDGWAY, Man. N. Am. Birds, 1887, 336.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 522.

[*Sayornis*] *saya* SHARPE, Hand-list, iii, 1901, 136.

T[*hermomyias*]*sayi* CABANIS and HEINE, Mus. Hein., ii, Sept., 1859, 68 (Mexico).

[*Thermomyias*] *sayi* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 145 (Mexico).

Tyrannula pallida SWAINSON, Philos. Mag., n. s., i, 1827, 367 (table-lands of Mexico).

Sayornis pallida SCLATER, Proc. Zool. Soc. Lond., 1857, 127, 204 (Jalapa, Vera Cruz); 1859, 366 (Jalapa); Ibis, 1859, 438 ("whole of Mexico"); Cat. Am. Birds, 1862, 199 (Orizaba, Vera Cruz); Cat. Birds, Brit. Mus., xiv, 1888, 32 (Fort Simpson, arctic America; Orizaba; City of Mexico; etc.).

[*Sayornis*] *pallida* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 43.

[*Tæniоptera*] *pallida* GRAY, Hand-list, i, 1869, 343, no. 5190.

Sayornis saya yukonensis BISHOP, Auk, xviii, Apr., 1900, 115 (Glacier, White Pass, Alaska; coll. L. B. Bishop); North Am. Fauna, no. 19, 1900, 79 (Glacier and Circle, Alaska; Bennett, near Stewart R., and Fort Selkirk, Yukon Territory).

[*Sayornis*] *yukonensis* SHARPE, Hand-list, iii, 1901, 136.

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Genus ERIBATES Ridgway.

Eribates[a] RIDGWAY, Proc. U. S. Nat. Mus., xvi, no. 955, Oct. 25, 1893, 606. (Type, *Myiobius magnirostris* Gray.)

Similar to *Myiarchus*, but tarsus relatively much longer (a little less than one-third as long as wing, about equal to length of bill from rictus), lateral outlines of bill not contracted terminally, and tenth (outermost) primary much shorter (shorter than secondaries).

Bill nearly as long as head, narrowly triangular or wedge-shaped in vertical profile, its width at frontal antiæ equal to about half the length of exposed culmen and decidedly less than twice its depth at same point, its lateral outlines straight to near tip of the rather obtusely pointed maxilla; exposed culmen equal to or slightly longer than middle toe with claw, distinctly ridged, straight to near tip where rather abruptly decurved, the tip of maxilla minutely and rather obtusely uncinate; gonys much longer than mandibular rami, faintly convex; maxillary tomium nearly straight, minutely notched subterminally. Nostril exposed, broadly oval or nearly circular, midway between culmen and tomium, opening laterally. Rictal bristles distinct but slender, the feathers of chin with indistinct, those of malar and frontal antiæ with distinct, bristly points. Wing moderate, much rounded, the longest primaries exceeding distal secondaries by slightly less than length of exposed culmen; sixth, seventh, and eighth primaries longest, ninth equal to fifth, tenth (outermost) shorter than secondaries. Tail about nine-tenths as long as wing, slightly double-rounded, the rectrices moderately broad, with broadly rounded tip. Tarsus long and slender, twice as long as middle toe without claw, a little less than one-third as long as wing, its scutellation typically exaspidean but with a separate series of longitudinal scutella along upper posterior margin of outer side of tarsus, the acrotarsial divisions very distinct; basal phalanx of middle toe united to outer toe for nearly its whole length, to inner toe for about half its length; outer toe, without claw, reaching to middle of subterminal phalanx of middle toe, the inner toe distinctly shorter; hallux shorter than inner toe but distinctly stouter, its claw about as long as the digit; all the claws rather long, moderately curved, sharp.

Coloration.—Above plain olive, browner on pileum, the wings and tail dusky grayish brown with paler edgings (these rufescent on inner webs of inner rectrices), the middle and greater wing-coverts broadly tipped with light brownish gray; beneath plain pale gray anteriorly, pale yellow posteriorly.

Nidification.—Nest in holes of arborescent cacti, composed of small twigs, fine grass stems, hair, feathers, etc. Eggs unknown.

Range.—Galapagos Archipelago. (Monotypic.)

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[a] Ἐρι, intensive participle; βάγης, one that treads.

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ERIBATES MAGNIROSTRIS (Gray).

GALAPAGOS FLYCATCHER.

Adults (*sexes alike*).—Above plain brown (light olive-brown to grayish sepia), the pileum usually slightly darker and browner, the rump and upper tail-coverts tinged, more or less, or margined with rusty brown or cinnamon; wings and tail deep grayish brown or dusky, with paler grayish brown edgings, the inner webs of rectrices (except middle and one or two outer pairs) more or less broadly edged with cinnamon-rufous or pale cinnamon; middle and greater wing-coverts broadly tipped with pale grayish brown or pale buffy grayish, forming two more or less distinct bands, the secondaries broadly edged with same; sides of head and neck similar in color to back, etc., but rather lighter, gradually fading below into the pale gray of chin, throat, and chest; lower eyelid whitish; lores mixed whitish and dusky gray; under parts of body and under tail-coverts pale (primrose) yellow, the upper breast (at least laterally) tinged with grayish; axillars and under wing-coverts pale grayish primrose yellow; inner webs of remiges broadly edged with very pale cinnamon-buffy; bill blackish brown, the mandible paler brown basally; legs and feet blackish brown or brownish black.

Young.—Similar to adults, but cinnamon-rufous edgings to inner webs of rectrices broader (all the rectrices except middle pair thus marked), the outer webs also narrowly edged with cinnamon or pale wood brownish; tips of middle and greater wing-coverts and edges of secondaries more buffy.

Adult male.—Length (skins), 135–153 (142); wing, 67–74 (70.7); tail, 59–65.5 (63.3); exposed culmen, 15.5–17 (16.2); tarsus, 21–22.5 (21.7); middle toe, 9.5–10.5 (9.9).[a]

Adult female.—Length (skins), 130–154 (144); wing, 63.5–74 (68); tail, 55.5–66 (60.6); exposed culmen, 14.5–16 (15.3); tarsus, 20.5–22 (21.2); middle toe, 9.5–10.5 (10).[b]

[a] Nine specimens.

[b] Nineteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Hood Island	73.3	64.8	17	22	10.3
One adult male from Albemarle Island	70.5	63	16	22	10
Four adult males from Indefatigable Island	72	64.3	15.8	21.8	9.8
Two adult males from Chatham Island	67.8	60	16.3	21.3	10
FEMALES.					
One adult female from Hood Island	69.5	62.5	15	21.5	10
Two adult females from Albemarle Island	68.5	62	15	21,5	10.3
Two adult females from Chatham Island	64	56.3	15.5	20.8	9.8
Five adult females from James Island	68.8	62.4	15.7	21.5	10
One adult female from Bindloe Island	68	60.5	16	21.5	10
Two adult females from Abingdon Island	67.3	59.5	15.3	21	10.5
Four adult females from Duncan Island	67.3	58.8	15	20.8	9.7
Two adult females from Charles Island	71.3	64.3	15	21.5	10

The series examined is not nearly sufficient to show whether there are or are not differences between specimens from different islands.

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Galapagos Archipelago (Albemarle, Narborough, Duncan, Charles, Hood, Chatham, Barrington, Indefatigable, Jervis, James, Bindloe, and Abingdon islands).

Myiobius magnirostris GRAY, in Zool. Voy. "Beagle." iii, Birds, 1841, 48 (Chatham Island, Galapagos Archipelago).

Tyrannula magnirostris GOULD, Zool. Voy. Beagle, iii, Birds, 1841, pl. 8.

Myiarchus magnirostris SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323 (Indefatigable, Bindloe, and Abingdon islands).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 125 (Chatham and James islands), 127 (crit.).—SALVIN, Trans. Zool. Soc. Lond., ix, pt. ix, 1876, 493 (Chatham, James, Indefatigable, Bindloe, and Abingdon islands).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 262 (Bindloe, Indefatigable, and Abingdon islands).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1899, 113 (Chatham, James, Indefatigable, Abingdon, Duncan, Hood, and Charles islands); xix, 1896, 569 (Albemarle, Duncan, Charles, Hood, Chatham, Barrington, Indefatigable, Jervis, James, Bindloe, and Abingdon islands).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 89 (at sea north of Culpepper Island), 129 (Albemarle Island), 172 (Chatham, Charles, Gardner, Hood, Barrington, James, Duncan, Indefatigable, Jervis, Albemarle, Narborough, Abingdon, and Bindloe islands; off Wenman Island); ix, 1902, 402 (Chatham, Abingdon, and Duncan islands; descr. nest and eggs; habits), 417.—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 269 (all islands except Wenman, Culpepper, and Tower).

M[yiarchus] magnirostris ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 202.

Empidonax magnirostris BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 365.

[*Eribates*] *magnirostris* SHARPE, Hand-list, iii, 1901, 148.

Genus MYIARCHUS Cabanis.

Myiarchus CABANIS, Wiegmann's Archiv. für Naturg., x, pt. i, 1844, 272; in Tschudi's Fauna Peruana, Aves, 1845, 152. (Type, *Muscicapa ferox* Gmelin.)

"*Despotina*, KAUP, 1851." (Gray, Hand-list, i, 1869, 363). (Type ?)

Onychopterus REICHENBACH, Av. Syst. Nat., 1850, pl. 65. (Type, *Tyrannus tuberculifer* D'Orbigny.)

Kaupornis BONAPARTE, Ann. Sci. Nat., sér. iv, Zool., i, 1854, 133. (Type, *Myiobius stolidus* Gosse.)

Myionax[a] CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 73. (Type, *Muscicapa crinita* Linnæus.)

Rather small to large Tyrannidæ (wing about 70–116 mm.) with exposed culmen equal to or longer than middle toe with claw, width of bill at frontal antiæ much less than length of gonys, tarsus less than twice as long as middle toe without claw, pileum subcrested (the short bushy crest concolor with rest of pileum), anterior under parts light or pale gray, the posterior portions light or pale yellow, and upper parts plain grayish brown or olive (the pileum sometimes darker), wings with pale edgings and covert-bands, the remiges and rectrices sometimes edged with rusty (whole or greater part of inner webs of the latter sometimes rufous).

[a] "Von μυῖα (Fliege) und ἄναξ (Herrscher)."

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Bill slightly shorter to longer than head, triangular or wedge-shaped in vertical profile, its lateral outlines nearly straight, its width at frontal antiæ much less than length of gonys (sometimes equal to only half the distance from nostril to tip of maxilla) and from about one and a half times to twice its depth at same point; exposed culmen equal to or longer than middle toe with claw, more or less distinctly ridged, straight to near tip where rather abruptly decurved, the tip of maxilla distinctly uncinate; gonys much longer than mandibular rami (sometimes nearly twice as long), straight or faintly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril mostly exposed, roundish or broadly oval (longitudinally), without surrounding membrane, midway between culmen and edge of maxilla, opening laterally rather than vertically. Rictal bristles strongly developed, the feathers of chin, malar antiæ, and frontal antiæ also with well-developed bristly points. Wing moderate, rather pointed, the longest primaries exceeding distal secondaries by more than length of middle toe without claw, sometimes by more than length of tarsus; seventh, eighth, seventh and eighth, or sixth and seventh primaries longest, ninth longer than fifth, sometimes equal to seventh, the tenth (outermost) at least equal to second, sometimes longer than fourth. Tail a little more than six-sevenths to very nearly as long as wing, even, slightly rounded or double-rounded, or faintly emarginate, the rectrices widening more or less, terminally, with broadly rounded tip. Tarsus longer (sometimes much longer) than middle toe with claw, less than one-fifth to more than one-fourth as long as wing, its scutellation typically exaspidean but with a separate series of longitudinal scutella (more or less distinct) along upper posterior portion of outer side of tarsus, the acrotarsial divisions very distinct; middle toe, without claw, not more (usually much less) than half as long as tarsus, its basal phalanx united to outer toe for much the greater part of its length, to inner toe for about half its length; outer toe, without claw, reaching to about middle of subterminal phalanx of middle toe, the inner toe slightly shorter; hallux slightly shorter than inner toe, not conspicuously stouter, its claw about as long as the digit; all the claws rather long, strongly curved, sharp, moderately compressed.

Coloration.—Above plain grayish brown or olive, usually darker or browner (sometimes nearly black) on pileum, the wings darker, with light edgings (these sometimes rufescent on primaries), the middle and greater wing-coverts more or less distinctly tipped with paler olive, pale grayish brown, or pale brownish gray, the rectrices often edged with rufous, sometimes with greater part or even whole of inner web rufous; under parts gray (usually pale) anteriorly, light yellow or yellowish white posteriorly.

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Nidification.—Nest in holes of trees, composed of dried grasses, shreds of bark, etc., lined with softer materials, often "ornamented" by addition of a cast-off snake skin. Eggs whitish or otherwise light colored, curiously streaked, longitudinally, with various hues of brown.

Range.—The whole of temperate and tropical America, including the West Indies but excluding the Galapagos Archipelago and other outlying islands on the Pacific side. (About thirty-five species, including subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF MYIARCHUS.[a]

a. Bill relatively narrow and deep, its depth at base of gonys nearly, if not quite, equal to its width at same point. (*Myiarchus.*)

b. Primaries edged, more or less distinctly, with cinnamon-rufous or cinnamon.

c. Throat and chest deeper gray (no. 8 to nearly no. 7); abdomen, etc., deeper yellow (between straw and canary); inner webs of rectrices wholly cinnamon-rufous, or else with only a narrow line of dusky next to shaft; tarsus relatively shorter (less than one-fifth as long as wing). (Eastern North America, south in winter to Cuba and Colombia.)..**Myiarchus crinitus** (p. 613)

cc. Throat and chest paler gray (paler than no. 8); abdomen, etc., paler yellow (primrose to yellowish white or sometimes even white); inner webs of rectrices not wholly cinnamon-rufous, or else (*M. nuttingi* and *M. brachyurus* only) other characters not as in *c.*

d. Outermost rectrix with at least inner half of inner web cinnamon-rufous, the color as deep as on inner webs of other rectrices.

e. Inner webs of rectrices with a distinct stripe of dusky extending along shaft for much the greater length of the rectrix.

f. Dusky stripe on inner web of outermost rectrix broader, occupying approximately one-third of the width of the web; bill relatively larger (exposed culmen averaging more than 20 mm.).

g. Color of upper parts much darker, with pileum practically concolor with back. (*Myiarchus oberi.*)

h. Larger (wing averaging more than 97 in male, more than 94 in female).

i. Paler wing-markings less distinct, darker in color; color of back, etc., more olive. (Islands of Dominica and Santa Lucia, Lesser Antilles.).....**Myiarchus oberi oberi** (p. 617)

ii. Paler wing-markings more conspicuous, more whitish; color of back, etc., more sooty. (Islands of St. Vincent, Bequia, Carriacou, Union, Prune, Tobago Keys, and Grenada, Lesser Antilles.).....**Myiarchus oberi nugator** (p. 619)

hh. Smaller (wing 92.6 in male, averaging 88.7 in female). (Islands of St. Christopher and Barbuda, Lesser Antilles.)
Myiarchus oberi berlepschi (p.620)

gg. Color of upper parts much paler, with pileum more or less distinctly more brownish than back.

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[a] Based on adults only. *M. denigratus* Cory, from Grand Cayman Island, is not included, no specimen being available at the time the key was prepared.

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h. Smaller and slightly darker, with dusky stripe on inner web of rectrices averaging broader and darker; wing averaging 93 or less in male, 89.8 or less in female.

i. Wing averaging 93 in male, 89.8 in female; bill brownish or dusky. (Colombia, Cayenne, etc., to southern Brazil, Paraguay, etc.).....**Myiarchus tyrannulus** (extralimital) [a]

ii. Wing 86.4–88.9; bill black. (Islands of Curaçao, Aruba, and Bonaire, Dutch West Indies.)...**Myiarchus brevipennis** (p. 620) [b]

hh. Larger and paler, with dusky stripe on inner web of rectrices narrower and less dark; wing averaging more than 100 in male, more than 94 in female. (*Myiarchus mexicanus*.)

i. Smaller (adult male averaging wing 102.3, tail 93.3, exposed culmen 21.5; adult female, wing 94.8, tail 89.6, exposed culmen 20.6). (Lower Rio Grande Valley of Texas through eastern Mexico to Honduras.)

Myiarchus mexicanus mexicanus (p. 621)

ii. Larger (adult male averaging wing 108.9, tail 99, exposed culmen 24.1; adult female: wing 106.5, tail 96.2, exposed culmen 24.3). (Southern Arizona and southward over Pacific slope of Mexico to western Guatemala.)

Myiarchus mexicanus magister (p. 623)

ff. Dusky stripe on inner web of outermost rectrix narrower, occupying much less than one-third the width of the web, except terminally, decreasing gradually in width basally; bill relatively smaller (exposed culmen averaging less than 18). (Western and southwestern Mexico; Guatemala in winter.)

Myiarchus nuttingi inquietus (p. 631)

ee. Inner webs of rectrices without a distinct (if any) stripe of dusky along shaft.

f. Inner webs of rectrices wholly cinnamon-rufous, or else a very narrow streak of dusky along shaft on terminal portion; wing relatively shorter (averaging less than 96 in males, less than 95 in females).

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[a] *Muscicapa tyrannulus* Müller, Syst. Nat. Suppl., 1776, 169 (Cayenne).—*Myiarchus tyrannulus* White, Proc. Zool. Soc. Lond., 1882, 608 (Argentina); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 251, part (excl. West Indian localities, references, and specimens).—*Myiarchus tyrannulus tyrannulus* (not of Clark, 1905, = *M. oberi nugator*) Hellmayr, Novit. Zool., xiii, 1906, 26 (Trinidad; crit.).—*Myiarchus tyranninus* (error) Allen, Bull. Am. Mus. N. H., ii, 1889, 87 (Mapiri, Bolivia).—[*Pyrocephalus*] *tyrannulus* Gray, Hand-list, i, 1869, 363, no. 5527.—*Muscicapa aurora* Boddaert, Tabl. Pl. Enl., 1783, 34 (based on *Le petit Tyran de Cayenne* Daubenton, Pl. Enl. 571, fig. 1).—[*Muscicapa ferox*] *β* Gmelin, Syst. Nat., i, 1788, 934.—*Myiarchus crinitus* (not *Turdus crinitus* Linnæus) Hartlaub, Index Azara Apunt., 1847, 13; D'Orbigny, Voy. Amér. Mérid., Ois., 1839, 306.—[*Tyrannula*] *irritabilis* (not *Tyrannus irritabilis* Vieillot, 1823) Bonaparte, Consp. Av., i, 1850, 189, part.—*Myiarchus crinitus*, b. var. *irritabilis* Coues, Proc. Ac. Nat. Sci. Phila., 1872, part (Paraguay).—*Myiarchus crinitus*, var. *irritabilis* Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 331.—*Tyrannus ferox* (not *Muscicapa ferox* Gmelin) Vieillot, Enc. Méth., 1823, 848.—*Myiarchus ferox* Burmeister, Syst. Ueb. Th. Bras., 1854, 116, part.—*Myiarchus erythrocercus* Sclater and Salvin, Proc. Zool. Soc. Lond., 1868, 631, 632 (Bahia, e. Brazil; coll. P. L. Sclater).—[*Myiarchus erythrocercus*] var. *erythrocercus* Ridgway, Proc. U. S. Nat. Mus., i, 1878, 140, 141, part (crit., etc.).

[b] Not having seen a specimen of this form I am unable to give a better comparative diagnosis.

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g. Smaller (male averaging wing 89.6, tail 84.7, exposed culmen 17, tarsus 21.3; adult female, wing 86.2, tail 79.7, exposed culmen 17.3, tarsus 20.7). (Southern Mexico to western Costa Rica.)
Myiarchus nuttingi nuttingi (p. 629)

gg. Larger (male averaging wing 95.9, tail 85.2, exposed culmen 20.2, tarsus 22.6; adult female, wing 94.3, tail 82.3, exposed culmen 20.3, tarsus 22.2). (Southern Mexico to western Costa Rica.)[a]
Myiarchus nuttingi brachyurus (p. 630)

ff. Inner webs of rectrices with a terminal or subterminal space of dusky, sometimes extending entirely across or even returning, for a greater or less distance, along inner edge; wing relatively longer (averaging more than 98 in male, more than 93 in female). (*Myiarchus cinerascens.*)

g. Upper parts browner; wing averaging longer (100.9 in male, 95.5 in female), bill shorter (exposed culmen 19.1 in male, 18.6 in female). (Western United States to Guatemala.)
Myiarchus cinerascens cinerascens (p. 625)

gg. Upper parts grayer; wing averaging shorter (98.3 in male, 93.6 in female), bill longer (exposed culmen 19.7 in male, 19 in female). (Lower California.).....**Myiarchus cinerascens pertinax** (p. 628)

dd. Outermost rectrix with less than inner half of inner web cinnamon-rufous (sometimes with none), or else the color much paler than on other rectrices.

e. Color of back more olivaceous, the pileum browner; gray of throat deeper (about no. 8 or no. 9); yellow of abdomen deeper (deep primrose); bill relatively shorter and broader (male averaging wing 84.6, tail 82.2, exposed culmen 18.2, tarsus 20.9; female, wing 81.8, tail 80.9, exposed culmen 17.9, tarsus 21.8). (Yucatan.).**Myiarchus yucatanensis** (p. 632)

ee. Color of back grayish brown or grayish, the pileum darker, but not browner, gray of throat paler (nearly grayish white); yellow of abdomen paler (pale primrose to nearly pure white); bill relatively longer and narrower.

f. Abdomen distinctly yellow (pale primrose).

g. Outermost rectrix with inner half pale cinnamon-rufous; slightly larger (male averaging: wing 86, tail 78.8, exposed culmen 19.3, tarsus 21.3; female, wing 85, tail 79.5, exposed culmen 18.5, tarsus 21). (Island of Haiti, Greater Antilles.)
Myiarchus dominicensis (p. 634)

gg. Outermost rectrix with much less than inner half of inner web pale cinnamon-rufous; slightly smaller (male averaging wing 84.8, tail 79.8, exposed culmen 18.5, tarsus 20.9; female, wing 83.7, tail 78.8, exposed culmen 18.3, tarsus 21). (Island of Jamaica, Greater Antilles.).....**Myiarchus stolidus** (p. 633)

ff. Abdomen white or yellowish white.

g. Posterior under parts pale primrose yellow or yellowish white; color of upper parts paler and grayer (grayish brown or grayish olive) the pileum not conspicuously darker; inner webs of rectrices broadly edged with cinnamon-rufous.

h. Smaller, with relatively broader bill; upper parts more olive; male averaging wing 83.9, tail 78.3, exposed culmen 19.3, tarsus 20.2; female, wing 80.2, tail 75.9, exposed culmen 18.2, tarsus 17.8. (Islands of Cuba, including Isle of Pines, and Grand Cayman, Greater Antilles.).....**Myiarchus sagræ sagræ** (p. 636)

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[a] While the respective ranges of these two forms are apparently identical, it is probable that their breeding ranges are separate, one inhabiting the lowlands or coastal plain (Pacific side), the other the interior highlands.

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hh. Larger, with relatively narrower bill; upper parts grayer; male averaging wing 88.6, tail 82.6, exposed culmen 19.7, tarsus 21.5; female, wing 83.7, tail 78.1, exposed culmen 19.3, tarsus 21.2. (Bahama Islands.) .....**Myiarchus sagræ lucaysiensis** (p. 637)

gg. Posterior under parts white (flanks sometimes tinged with yellow); color of upper parts darker and browner, the pileum conspicuously darker (deep sepia or sooty brown); inner webs of rectrices narrowly edged with pale cinnamon-rufous, this sometimes wanting. (Island of Porto Rico, Greater Antilles.)

Myiarchus antillarum (p. 638)

bb. Primaries not edged with cinnamon-rufous or cinnamon, but with light olive or brownish gray.

c. Inner webs of third, fourth, and fifth retrices broadly edged with cinnamon or cinnamon-rufous. (Wing 89, tail 80, tarsus 24.5, middle toe 14.) (Island of Martinique, Lesser Antilles.).....**Myiarchus sclateri** (p. 639)

cc. Inner webs of all the rectrices wholly grayish brown or dusky.

d. Outermost (tenth) primary longer than fourth; upper parts light grayish olive; under parts of body very pale primrose yellow; bill smaller (exposed culmen 15). (Eastern Brazil to Cayenne.)

Myiarchus pelzelni (extralimital)[a]

dd. Outermost (tenth) primary shorter than fourth; upper parts deeper grayish olive, brownish olive, or dusky olive, the pileum and hindneck sometimes gray; under parts of body deeper primrose yellow; bill larger (exposed culmen 18.5–22. (*Myiarchus ferox*.)

e. Above dark or dusky olive, the auricular region and hindneck similar. (South America.).....**Myiarchus ferox ferox** (extralimital)[b]

ee. Above light brownish olive to grayish olive, the hindneck and sides of neck (sometimes pileum also) more or less gray.

f. Pileum olive; back olive or brownish olive; gray of neck restricted. (Colombia and Panama.).....**Myiarchus ferox panamensis** (p. 640)

ff. Pileum gray (sometimes tinged with olive); back grayish-olive; gray of neck more extended.

g. Slate-gray of head and neck duller; yellow of under parts paler. (Western Costa Rica.).....**Myiarchus ferox actiosus** (p. 642.)

gg. Slate-gray of head and neck clearer; yellow of under parts deeper. (Western Ecuador.)..**Myiarchus ferox phæocephalus** (extralimital)[c]

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[a] *Myiarchus pelzelni* Berlepsch, Ibis, 5th ser., i, Apr., 1883, 139 (Bahia, e. Brazil; coll. Count von Berlepsch); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 255 (Bahia; Oyapoc, Cayenne).

[b] [*Muscicapa*] *ferox* Gmelin, Syst. Nat., i, pt. ii, 1788, 934 (Cayenne; based on *Tyrannus cayanensis* Brisson, Orn., ii, 398).—*Myiarchus ferox* Cabanis, Orn. Notizen, i, 1847, 248; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 253, part. (I give no additional references, for the reason that without a large series of specimens representing all parts of the range of the species it would be impossible to determine which particular references belong here. The species, with its geographic forms, is involved in much confusion and requires careful revision. *M. phæonotus* Salvin and Godwin (Ibis, 1883, 207; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 255), from British Guiana, and *M. cephalotes* Taczanowski (Proc. Zool. Soc. Lond., 1879, 671; Sclater, Cat. Birds Brit. Mus., xiv, 254), from western Peru and Ecuador, are probably, if distinct, forms of this species.

[c] *Myiarchus phæocephalus* Sclater, Proc. Zool. Soc. Lond., 1860, 281 (Babahoyo, w. Ecuador; coll. P. L. Sclater; Cat. Am. Birds, 1862, 233; Cat. Birds Brit. Mus., xiv, 1888, 255 (Babahoyo, Santa Rita, and Balzar Mts., w. Ecuador); Lawrence, Ann. Lyc. N. Y., ix, 1869, 237 (Puna I., near Guayaquil).—*Myiarchus tyrannulus*, var. *phæocephalus* Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 330, footnote (Puna I.).—[*Pyrocephalus*] *phæocephalus* Gray, Hand-list, i, 1869, 363, no. 5530.

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aa. Bill relatively broad and flat, its depth at base of gonys much less than its width at same point. (*Onychopterus.*)

b. Throat and chest pale gray; larger (males averaging wing more than 80, tail 74 or more, exposed culmen more than 16).

c. Remiges edged, more or less distinctly, with cinnamon-rufous, cinnamon, or cinnamon-buffy. (*Myiarchus lawrenceii.*)

d. Pileum conspicuously darker than back.

e. Pileum deep sooty brown; slightly larger (male averaging wing 85, tail 79.9, exposed culmen 18, tarsus 19.7; female, wing 81.3, tail 76.1, exposed culmen 17.2, tarsus 19.1). (Eastern Mexico to Guatemala.)

Myiarchus lawrenceii lawrenceii (p. 642)

ee. Pileum dark sooty brown to black; slightly smaller (average measurements slightly less than the above).

f. Pileum dark sooty brown; back olive or brownish olive; male averaging wing 80.8, tail 74.4, exposed culmen 17.9, tarsus 19.6; female, wing 77.1, tail 70, exposed culmen 17.5, tarsus 19.1. (Honduras to western and central Costa Rica.).....**Myiarchus lawrenceii nigricapillus** (p. 644)

ff. Pileum sooty black to black; back greenish olive; male averaging wing 83.5, tail 79, exposed culmen 16.5, tarsus 19.5; female, 78, tail 69.5, exposed culmen 16.5, tarsus 19.5. (Eastern Costa Rica and northeastern Panama.).....**Myiarchus lawrenceii bangsi** (p. 646)

dd. Pileum not conspicuously darker than back.

e. Outer webs of rectrices more or less rufescent along edges; cinnamomeous edgings to outer webs of remiges more distinct.

f. Darker and more olivaceous above.

g. Larger (male averaging wing 85.1, tail 80.8, exposed culmen 17.9, tarsus 18.6; female, wing 81.1, tail 76.7, exposed culmen 17.3, tarsus 18.8). (Central and southwestern Mexico.)

Myiarchus lawrenceii querulus (p. 647)

gg. Smaller (male averaging wing 80.7, tail 76.3, exposed culmen 17.7, tarsus 19.7; female, wing 75.2, tail 68.3, exposed culmen 16.7, tarsus 18.2). (Yucatan, Campeche, and Tabasco, southeastern Mexico.).....**Myiarchus lawrenceii platyrhynchus** (p. 648)

ff. Paler and grayer above (male, wing 78.5, tail 73, exposed culmen 18, tarsus 20.5; female, wing 74, tail 71.8, exposed culmen 17.3, tarsus 19.3). (Tres Marias Islands, western Mexico.)

Myiarchus lawrenceii tresmariæ (p. 649)

ee. Outer webs of rectrices without rufescent edgings; cinnamomeous edgings to outer webs of remiges less distinct; male averaging wing 81.3, tail 76.2, exposed culmen 17.9, tarsus 20.1; female, wing 76.1, tail 71.4, exposed culmen 17.1, tarsus 17.9. (Southern Arizona and northwestern Mexico.).....**Myiarchus lawrenceii olivascens** (p. 649)

cc. Remiges without cinnamomeous or rufescent edgings. (Otherwise like *M. lawrenceii bangsi* but rectrices without rufescent or cinnamomeous edgings on either web.) (Southern Panama to Guiana, Amazon Valley, and Ecuador.)

Myiarchus nigriceps (p. 650)

bb. Throat grayish white; chest pale yellowish gray or grayish yellow; smaller (male averaging wing 73.3, tail 68.2, exposed culmen 16; female, wing 70.8, tail 66.6, exposed culmen 15.8). (Island of Jamaica, Greater Antilles.)

Myiarchus barbirostris (p. 652)

MYIARCHUS CRINITUS (Linnæus).

CRESTED FLYCATCHER.

Adults (sexes alike).—Above plain olive, the pileum usually slightly browner, with feathers darker centrally; middle pair of rectrices and outer webs of other rectrices deeper brownish olive with paler olive

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edgings, the outer web of lateral rectrix sometimes narrowly edged with dull whitish; inner web of rectrices (except middle pair) cinnamon-rufous, the outermost two or three usually with a narrow streak of brown next to shaft; wings dusky grayish brown, the middle and greater coverts margined terminally (more or less broadly) with pale buffy olive, pale olive-buff or pale buffy grayish, the secondaries edged with the same, the edgings broader and more whitish (sometimes yellowish white or very pale yellowish) on inner secondaries; basal half (more or less) of primaries narrowly edged with cinnamon or cinnamon-rufous; sides of head and neck gray, the latter and auricular region tinged with olive; chin, throat, and chest plain gray (about no. 8, the chin and throat slightly paler); under parts of body light yellow (between straw and sulphur), the sides of breast and anterior portion of sides pale yellowish olive; axillars and under wing-coverts pale yellow; inner webs of remiges broadly edged with pale cinnamon-rufous or cinnamon-buff; maxilla deep to dark horn brown, darker terminally; mandible similar but paler basally; iris brown; legs and feet dusky brown to brownish black

Young.—Essentially like adults but upper tail-coverts tinged with rusty, outer webs of rectrices edged (more or less broadly) with rusty, rusty edgings of primaries broader, and middle and greater wing-coverts margined terminally with rusty or cinnamon-buffy.

Adult male.—Length (skins), 186–213 (198); wing, 99–109.5 (105.9); tail, 86–96 (91.2); exposed culmen, 18-23 (20.3); tarsus, 19.5–21.5 (20.7); middle toe, 11.5–14 (13).[a]

Adult female.—Length (skins), 187-202 (193); wing, 95–106.5 (99.3); tail, 81.5–93 (85.5); exposed culmen, 18–22 (20.7); tarsus, 19.5–21.5 (20.5); middle toe, 12–13.5 (12.8).[b]

[a] Twenty-four specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Atlantic States	105.9	91.7	20.2	20.6	13.1
Six adult males from Mississippi Valley	105.9	92.3	19.8	20.7	12.8
Three adult males from Texas	103.2	88.3	19.3	20.8	13
Six adult males from Florida	103.3	90.8	21.6	20.8	13
FEMALES.					
Four adult females from Atlantic States	97.6	84.4	19.7	20.4	12.8
Two adult females from Illinois and Indiana	98.3	84.5	18.8	20.3	12.8
One adult female from Texas	106.5	93	20.5	21	13.5
Three adult females from Florida	99.8	85.3	21.5	20.8	12.8

After carefully comparing breeding specimens from Florida with those from more northern localities I am unable to find differences sufficient, in my judgment, to warrant their subspecific separation. The difference in size of the bill, while fairly constant, is by no means conspicuous, and is not, so far as I am able to see, accompanied by any difference of coloration.

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Eastern United States and southern Canada; north to western New Brunswick (6 miles east of Houlton, Maine), New Hampshire (Moultenboro), Vermont (St. Albans; Mount Mansfield), northern New York (Lewis and Syracuse counties), southern Quebec, northern Ontario (Beaumaris), and Manitoba (Lake Winnipeg; Lake Manitoba; Carberry); breeding southward to central Florida (Tarpon Springs, etc.) and westward through Gulf States to Texas (as far west as Tom Green and Concho counties, south to Refugio county); south in winter to Cuba and through eastern Mexico, in States of Tamaulipas (Sota la Marina; Alta Mira), Nuevo Leon (Santa Catarina), Guanajuato?, Oaxaca (Tehuantepec City), Guatemala (Choctum; Livingston), British Honduras (Cayo), Honduras (Truxillo), Nicaragua (Rio Escondido), Costa Rica (San José; Cartago; Bebedero; Pigres) and Panama (Lion Hill; Colon; Divala; Saboga Island) to Colombia (Bucaramanga; Bonda; Santa Marta).

[*Turdus*] *crinitus* LINNÆUS Syst. Nat., ed. 10, 1758, 170 (Carolina; based on *Muscicapa cristata, ventre luteo* Catesby, Carolina, i, 52).

[*Muscicapa*] *crinita* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 325.

M[*uscicapa*] *crinita* LICHTENSTEIN, Verz. Doubl., 1823, 54 (Carolina).

Muscicapa crinita WILSON, Am. Orn., ii, 1810, 75, pl. 13, fig. 2.—BONAPARTE, Synopsis Birds U. S., 1828, 67.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 271.—AUDUBON, Orn. Biog., ii, 1834, 176; v, 1839, 423, pl. 129; Synopsis, 1839, 40; Birds Am., oct. ed., i, 1840, 209, pl. 57.

Tyrannus crinitus SWAINSON, Quart. Journ., xx, 1826, 271.—BONAPARTE, Geog. and Comp. List, 1838, 25.—NUTTALL, Man. Orn. U. S. and Can., 2d ed., 1840, 302.—MAXIMILIAN, Journ. für Orn., 1858, 182.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307 (Cuba).

M[*yiobius*] *crinitus* GRAY, Gen. Birds, i, 1847, 248.

T[*yrannula*] *crinita* HARTLAUB, Syst. Verz. Mus. Brem., 1844, 49.

[*Tyrannula*] *crinita* BONAPARTE, Consp. Av., i, 1850, 189.

Tyrannula crinita WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 74 (Indian Territory; Texas).

Tyr[*annula*] *crinita* KAUP, Proc. Zool. Soc. Lond., 1851, 51 (crit.).

Myiarchus crinitus LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 16.—CABANIS, Journ. für Orn., 1855, 479; 1861, 250 (Costa Rica).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 178; Cat. N. Am. Birds, 1859, no. 130.—SCLATER and SALVIN, Ibis, i, 1859, 121 (Guatemala).—SCLATER, Ibis, 1859, 440 (Guatemala); Cat. Am. Birds, 1862, 232 (New Jersey); Cat. Birds Brit. Mus., xiv, 1888, 247 (Choctum and Livingston, Guatemala; Lion Hill, Panama R. R., etc.).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 327 (Lion Hill, Panama R. R.); ix, 1868, 115 (Costa Rica).—DRESSER, Ibis, 1865, 473 (San Antonio, Texas, Apr.).—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1865, 239; Journ. für Orn., 1871, 293; 1872, 426 (Cuba); Orn. Cub., 1893, 86.—MCILWRAITH, Proc. Essex Inst., vi, 1866, 83 (Hamilton, Ontario).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—(?) DUGÈS, La Naturaleza, i, 1869, 141 (Guanajuato, Mexico).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Kansas).—COUES, Proc. Ac. Nat. Sci. Philad., 1872, 63 (crit.); Check List, 1873, no. 247; 2d ed. 1882, no. 373; Birds Northwest, 1874, 238.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 334, pl. 43, fig. 3.—GENTRY, Proc. Ac.

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Nat. Sci. Philad., 1874, 104 (habits).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 27 (Tehuantepec City, Oct.).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (San José and Cartago, Costa Rica).—STEPHENS, Bull. Nutt. Orn. Club, iii, 1878, 94 (Gila, New Mexico).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 312; Proc. Biol. Soc. Washington, ii, 1884, 92 (crit.); Orn. Illinois, i, 1889, 345.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 452.—COOKE, Bird Migr. Miss. Val., 1888, 148 (Mississippi Valley range, etc.; breeding in Concho and Tom Green counties, and at Houston, Texas, and north to at least lat. 45° in Minnesota; Manitoba).—CHAPMAN, Auk, v, 1888, 272 (Gainesville, Florida, breeding).—BREWSTER, Auk, v, 1888, 389 (Winchendon, Massachusetts, breeding).—FAXON, Auk, vi, 1889, 44 (Berkshire Co., Massachusetts, breeding).—ALLEN (F. H.), Auk, vi, 1889, 78 (Moultenboro, New Hampshire, breeding).—MERRIAM, Bull. Nutt. Orn. Club, vi, 1881, 231 (Lewis Co., New York, breeding).—BROWN, Bull. Nutt. Orn. Club, vii, 1882, 40 (Boerne, Kendall Co., s. w. Texas, 1 spec., Mar. 30).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (New Brunswick, 6 m. e. of Houlton, Maine, 1 pair breeding).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 169 (Houston, etc., s. e. Texas, breeding; habits); Our Native Birds, ii, 1896, 344, pl. 33, fig. 1.—SALVIN, Cat. Strickland Coll., 1882, 315 (Mexico; Pennsylvania).—BERLEPSCH, Journ. für Orn., 1884, 277 (Bucaramanga, Colombia), 303 (do.; crit.).—BICKNELL, Auk, ii, 1885, 254 (notes).—CORY, Auk, iii, 1886, 241; Birds West Ind., 1889, 128.—SETON, Auk, iii, 1886, 320 (Lake Winnipeg and Lake Manitoba, rare).—THOMPSON, Auk, iii, 1886, 453 (Carberry, Manitoba); x, 1893, 50 (Winnipeg, Manitoba, 3 specs.; Carberry, several).—LLOYD, Auk, iv, 1887, 192 (Tom Green Co., w. Texas, breeding).—SCOTT, Auk, vi, 1889, 319 (breeding at Tarpon Springs, and wintering at Punta Rassa and Key West, Florida); ix, 1892, 208 (Fort Myers and Punta Rassa, Florida, in winter).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 87 (Soto la Marina, Tamaulipas; Cayo, British Honduras; etc.).—CORY, Birds West Ind., 1889, 128; Cat. West Ind. Birds, 1892, 108.—BOLLES, Auk, vii, 1890, 288 (as to use of snakes' skins in nests).—SCOTT, Auk, ix, 1892, 213, 218 (Caloosahatchie R., Florida, breeding).—ATTWATER, Auk, ix, 1892, 236 (San Antonio, Texas, breeding).—CHERRIE, Auk, ix, 1892, 251 (San José, Costa Rica, transient, wintering on both coasts).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Rio Escondido, Nicaragua, Oct.).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 259, pl. 2, figs. 8, 9 (eggs).—WOODWORTH, Auk, xii, 1895, 311 (St. Albans, Vermont, common).—WAYNE, Auk, xii, 1895, 365 (Wacissa R., Florida, breeding).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia); Auk, xviii, 1901, 363 (Divala, Panama, Nov., Dec.; crit.).—CARROLL, Auk, xvii, 1900, 345 (Refugio Co., Texas, breeding).—ALLEN, Auk, xvii, 1900, 364 (Bonda, Santa Marta, Colombia, Nov. to Feb.); Bull. Am. Mus. N. H., xiii, 1900, 142 (do.).—FLEMING, Auk, xviii, 1901, 39 (Beaumaris, n. Ontario, common).—HOWELL, Auk, xviii, 1901, 341 (Mount Mansfield, Vermont).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 252.—ALLEN (G. M.), Proc. Manchester Inst., iv, 1902, 119 (New Hampshire, up to 1,500 ft.).—WIDMANN, Auk, xix, 1902, 234 (Emmet Co., Michigan).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 29 (monogr.).—CURRIER, Auk, xxi, 1904, 36 (Leech Lake, Minnesota).—WILLIAMS (R. W., Jr.), Auk, xxi, 1904, 456 (Leon Co., Florida, breeding).—ALLISON, Auk, xxi, 1904, 478 (West Baton Rouge, Louisiana, breeding).—WOOD and FROTHINGHAM, Auk, xxii, 1905, 48 (Oscoda Co., n. Michigan, June, July).—STOCKARD, Auk, xxii, 1905, 155 (Mississippi, breeding).—MILLS, Wilson Bull., no. 53, 1905, 116 (Fulton Co., Georgia, breeding).

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[*Myiarchus*] *crinitus* GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).—COUES, Key N. Am. Birds, 1872, 171.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52. SHARPE, Hand-list, iii, 1901, 143.

M[*yiarchus*] *crinitus* COUES, Key N. Am. Birds, 2d ed., 1884, 434; 5th ed., i, 1903, 518.—RIDGWAY, Man. N. Am. Birds, 1887, 333.

[*Myiarchus crinitus*] var. *crinitus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 331.

[*Myiarchus crinitus*] a. *crinitus* COUES, Birds Northwest, 1874, 238.

Myiarchus crinitus crinitus THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, Sept., 1905, 153 (Saboga I., Bay of Panama, Apr.).

M[*yionax*] *crinitus* CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 73.

Myionax crinitus CABANIS, Jour. für Orn., 1861, 250 (Costa Rica).

[*Pyrocephalus*] *crinitus* GRAY, Hand-list, i, 1869, 362, no. 5518.

[*Muscicapa*] *ludoviciana* GMELIN, Syst. Nat., i, 1788, 934 (based on *Tyran de la Louisiane* Buffon, Hist. Nat. Ois., iv, 583.

Tyrannus ludovicianus VIEILLOT, Ois. Am. Sept., i, 1807, 75, pl. 45.

Tyrannus irritabilis VIEILLOT, Enc. Méth., ii, 1823, 847.

Muscicapa virginea MÜLLER, Syst. Nat. Suppl. 1776, 168 (based on Pl. Enl. 569, fig. 1.)

Myiarchus cinerascens (not of Lawrence) SCLATER and SALVIN, Ibis, 1859, 121, part (Livingston, Guatemala).

Myiarchus crinitus boreus BANGS, Auk, xv, Apr., 1898, 179 (Scituate, Massachusetts; coll. E. A. and O. Bangs).

[*Myiarchus*] *boreus* SHARPE, Hand-list, iii, 1901, 143.

Myiarchus crinitus residuus HOWE, Contr. N. Am. Orn., i, May 21, 1902 (Ishtopoga Lake, Florida; coll. Howe-Shattuck).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 30 (monogr.).

MYIARCHUS OBERI OBERI Lawrence.

OBER'S FLYCATCHER.

Most like *M. mexicanus mexicanus*, but much darker above, wing and tail averaging decidedly shorter but bill longer; also resembling *M. tyrannulus*[a] but decidedly larger (especially the bill) and coloration much darker.

Adults (*sexes alike*).—Above deep to dark olive, passing into sepia or clove brown on pileum, the upper tail-coverts tinged (especially on margins) with rusty; tail dusky grayish brown, the outer webs of rectrices indistinctly edged with paler, the inner webs (except of middle pair) with inner two-thirds (more or less) cinnamon-rufous; wings dusky, the middle and greater coverts broadly tipped with light grayish brown (sometimes tinged with cinnamon or rusty), secondaries edged with still paler grayish brown (approaching dull whitish on the innermost) the primaries and distal secondaries edged (except terminally) with cinnamon or rusty; sides of head and neck (except lores) grayish olive, gradually fading below into the light gray (about no. 8 or no. 9) of chin, throat, and chest, the lores also light gray; under parts of body, under tail-coverts, axillars, and under wing-

[a] See p. 610.

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coverts pale (primrose) yellow; inner webs of remiges broadly edged with light cinnamon-rufous; bill black, the mandible usually more brownish basally; iris brown; legs and feet black or brownish black.

Adult male.—Length (skins), 181–213 (199); wing, 93.5–102.5 (97.4); tail, 83.5–91 (87.3); exposed culmen, 21.5–24 (22.6); tarsus, 24–25.5 (24.5); middle toe, 14–15 (14.6).[a]

Adult female.—Length (skins), 194–210 (203); wing, 95.5–105.5 (99.6); tail, 87–95 (89.7); exposed culmen, 21.5–24 (22.8); tarsus, 24.5–25 (24.8); middle toe, 14–15.5 (14.6).[b]

Islands of Dominica and Santa Lucia (also Guadeloupe?), Lesser Antilles.

Myiarchus erythrocercus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 631, part (Dominica).—SCLATER, Proc. Zool. Soc. Lond., 1871, 271 (Santa Lucia).—SEMPER, Proc. Zool. Soc. Lond., 1872, 650 (Santa Lucia; habits).

[*Pyrocephalus*] *erythrocercus* GRAY, Hand-list, i, 1869, 362, no. 5522, part (Dominica).

Myiarchus oberi LAWRENCE, Ann. N. Y. Acad. Sci., i (pub. Dec.), 1877, 48 (Dominica, Lesser Antilles; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., i, 1878, 59 (Dominica), 487, part (Dominica); (?) viii, 1885, 622 (Guadeloupe).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 166 (Santa Lucia); Bull. Am. Mus. N. H., iv, 1892, 344 (crit.).—SCLATER, Ibis, 1880, 74 (West Indies).—CORY, Auk, iii, 1886, 239, part (Dominica; Santa Lucia); Birds West Ind., 1889, 126, part (Dominica; Santa Lucia), 292 (crit.).—NICOLL, Ibis, 1904, 570 (Dominica).

[*Myiarchus*] *oberi* SHARPE, Hand-list, iii, 1901, 144.

Myiarchus oberi oberi RILEY, Smithson. Misc. Coll., quart. issue, xlvii, no. 1484, Nov. 9, 1904, 275.

Myiarchus tyrannulus oberi CORY, Cat. West Ind. Birds, 1892, 14, part (Dominica; Santa Lucia).—VERRILL, Trans. Conn. Acad. Sci., viii, 1892, 336 (Dominica; habits; crit.).

Myiarchus tyrannulus (not *Muscicapa tyrannula* Müller) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 251, part (Dominica; Santa Lucia); Proc. Zool. Soc. Lond., 1889, 326 (Dominica), 395 (Santa Lucia).

[a] Seven specimens.

[b] Five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Dominica	96.5	86.7	22.7	24.4	14.5
One adult male from Santa Lucia	102.5	91	22	25	15.5
FEMALES.					
Four adult females from Dominica	98.1	88.4	22.5	24.8	14.4
One adult female from Santa Lucia	105.5	95	24	25	15.5

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MYIARCHUS OBERI NUGATOR Riley.

GRENADA FLYCATCHER.

Similar to *M. o. oberi*, but tips of wing-coverts decidedly paler and edgings of secondaries broader and paler (yellowish white); color of back, etc., usually less decidedly olive, the pileum browner (less sooty).

Adult male.—Length (skins), 170–215 (190); wing, 93.5–102 (98); tail, 83.5–95 (88.7); exposed culmen, 21–25.5 (23.2); tarsus, 23–26 (24.6); middle toe, 14–16 (14.6).[a]

Adult female.—Length (skins), 175–218 (190); wing, 89–100 (94.7); tail, 81.5–93.5 (86.5); exposed culmen 20–24.5 (22.7); tarsus, 22.5–25.5 (24.3); middle toe, 14–15 (14.4).[b]

More southern Lesser Antilles (St. Vincent, Carriacou, Union Island, Prune Island, Bequia, Mustique, Tobago Keys, and Grenada); Tobago?[c]

Myiarchus oberi (not of Lawrence, 1877) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 191 (St. Vincent), 271 (Grenada), 487, part (St. Vincent; Grenada)—LISTER, Ibis, 1880, 41 (St. Vincent).—CORY, Auk, iii, 1886, 239, part (St. Vincent; Grenada); Ibis, 1886, 473 (St. Vincent); Birds West Ind., 1889, 126, part (St. Vincent; Grenada).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 617 (Grenada; habits; descr. nest and eggs); Auk, xix, 1902, 346 (do.).

[a] Twenty-nine specimens.

[b] Twenty-four specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Grenada	99	89.2	24.4	24.6	14.9
Eight adult males from St. Vincent	96.9	88.1	23.3	24.9	14.7
Three adult males from Carriacou	99.8	90.5	22.7	24.2	14.2
Three adult males from Tobago Keys	96.5	86.8	22.7	24.5	14.5
Five adult males from Union Island	97.7	89.1	22.3	24.4	14.3
Two adult males from Prune Island	97.8	86.8	23.5	24	14.8
One adult male from Bequia	101.5	92	23	25	15
FEMALES.					
Seven adult females from Grenada	94.2	86.1	23.3	24.5	14.6
Eight adult females from St. Vincent	94.6	86.8	22.6	24.5	14.3
Three adult females from Carriacou	93.3	84.7	22.8	23.8	14.3
One adult female from Tobago Keys	93.5	84	21	24	14.5
Two adult females from Prune Island	96.5	87.3	22.3	24.3	14.8
One adult female from Bequia	97.5	91.5	22.5	24.5	14.5
One adult female from Union Island	94	86	24	24	14
One adult female from Mustique	98.5	91	20	24	14.5

[c] Specimens from the island of Tobago certainly are not referable to *M. tyrannulus*; but unfortunately those examined by me are not in sufficiently good plumage to enable me to determine whether they are the same as the present form. Tobago specimens are much darker as well as larger than mainland examples (*M. tyrannulus*).

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Myiarchus tyrannulus oberi CORY, Cat. West Ind. Birds, 1892, 14, 108, 144, part (St. Vincent; Carriacou).

Myiarchus tyrannulus (not *Muscicapa tyrannula* Müller) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 251, part (Grenada; St. Vincent).—NICOLL, Ibis, 1904, 566 (Grenada).

Myiarchus tyrannulus tyrannulus CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 276 (St. Vincent; Grenadines; Grenada; crit.; habits; descr. nest and eggs).

Myiarchus oberi nugator RILEY, Smithson. Misc. Coll., xlvii, quart. issue, no. 1484, Nov. 9, 1904, 275 (Grenada; Lesser Antilles; coll. U. S. Nat. Mus.).

MYIARCHUS OBERI BERLEPSCHII (Cory).

VON BERLEPSCH'S FLYCATCHER.

Similar to *M. o. oberi*, but decidedly smaller.[a]

Adult female.—Length (skin), 195; wing, 88; tail, 78; exposed culmen, 20.5; tarsus, 22.5; middle toe, 14.[b]

Island of St. Christopher (also Barbuda?), Lesser Antilles.

(?) *Myiarchus oberi* (not of Lawrence, 1877) LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 239 (Antigua[c]), 487, part (Barbuda).

(?) *Myiarchus tyrannulus oberi* CORY, Cat. West Ind. Birds, 1892, 14, 108, 145, part (Barbuda).

(?) *Myiarchus tyrannulus* (not *Muscicapa tyrannula* Müller) SCLATER, Cat. Birds, Brit. Mus., xiv, 1888, 251, part (Nevis).[c]

Myiarchus berlepschii CORY, Auk, v, July, 1888, 266 (St. Christopher, Lesser Antilles; coll. C. B. Cory); Auk, viii, 1891, 48 (St. Christopher); Birds West Ind., 1889, 293 (St. Christopher).—RILEY, Smithson. Misc. Coll., xlvii, quart. issue, 1904, 287 (St. Christopher; Barbuda; crit.).

Myiarchus berlepschi CORY, Cat. West Ind. Birds, 1892, 13, 108, 132, 145 (St. Christopher).

MYIARCHUS BREVIPENNIS Hartert.

CURAÇAO CRESTED FLYCATCHER.

Similar to *M. tyrannulus*, but tarsus longer, wings and tail shorter, bill black, and coloration of upper parts paler; length, 185; wing, 86.4–88.9; tail, 88.9; culmen [exposed?], 17.8–20.3; tarsus, 19–21.6.[d]

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[a] I am unable to verify, from comparison of a single specimen from St. Christopher, the color differences claimed in the original description.

[b] One specimen, from St. Christopher.

I refer doubtfully to this form, a series of *Myiarchus* from the island of Barbuda. These agree with the specimen of *M. o. berlepschi* from St. Christopher in small size, but are apparently slightly paler and more olivaceous in color of back, etc., and the upper tail-coverts are in all (five adults) strongly tinged with cinnamon or rusty. The yellow of under parts is also brighter and clearer (more so even than in *M. o. oberi*), approaching sulphur yellow. Average measurements are as follows: Adult males: Length (skins), 178–196 (189); wing, 88.5–95 (92.6); tail, 77–84.5 (82.3); exposed culmen, 20–22.5 (21.2); tarsus, 23.5–24.5 (24.1); middle toe, 13–14 (13.5). Adult female: Length (skin), 192; wing, 89.5; tail, 79; exposed culmen, 21; tarsus, 24.5; middle toe, 13.5.

[c] Specimens from Antigua and Nevis not seen by me.

[d] Free translation of original description, the measurements (in inches and decimals) converted into millimeters. I have not seen a specimen of this form.

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Islands of Aruba, Curaçao, and Bonaire, Dutch West Indies.

Myiarchus brevipennis HARTERT, Bull. Brit. Orn. Club, iii, Dec. 1, 1892, p. xii (Islands of Aruba, Curaçao, and Bonaire, Dutch West Indies; coll. Tring Mus.?); Ibis, 1893, 123 (reprint), 298 (crit.), 318 (Curaçao), 328 (Bonaire); Novit. Zool., ix, 1902, 300 (Aruba, Curaçao, and Bonaire; crit.).

[*Myiarchus*] *brevipennis* SHARPE, Hand-list, iii, 1901, 144.

MYIARCHUS MEXICANUS MEXICANUS (Kaup).

MEXICAN CRESTED FLYCATCHER.

Similar to *M. crinitus*, but larger; color of upper parts much grayer (the pileum browner), gray of throat and chest and yellow of abdomen, etc., much paler, and inner webs of rectrices with a broad stripe of dusky grayish brown next to shaft.

Adults (sexes alike).—Pileum broccoli brown, the feathers slightly darker centrally; rest of upper parts grayish olive, grayer on hindneck, the upper tail-coverts browner, with margins still browner or somewhat rusty; tail deep grayish brown, the outer webs of rectrices passing into lighter grayish brown on edges, the inner webs dusky grayish brown next to shaft, otherwise cinnamon rufous—the dusky brown occupying sometimes more than inner half of the inner web on lateral rectrix but usually much less; wings dusky grayish brown, the middle and greater coverts broadly tipped with pale grayish brown, the greater coverts and secondaries edged with the same (more whitish, the edgings broader, on inner secondaries), the basal half (more or less) of primaries narrowly edged with cinnamon-rufous; sides of head and neck light gray (the latter and the auricular region slightly tinged with brown, gradually fading below into the pale gray (about no. 10) of chin, throat, and chest; under parts of body, under tail-coverts, axillars, and under wing-coverts pale (primrose) yellow; inner webs of remiges broadly edged with pale cinnamon-rufous; bill brownish black, more brownish basally, especially on mandible; iris brown; legs and feet brownish black.

Adult male.—Length (skins), 199–218 (208); wing, 99–106.5 (102.3); tail, 89.5–97.5 (93.3); exposed culmen, 20.5–22.5 (21.5); tarsus, 21.5–24 (23); middle toe, 13.5–15.5 (14.3).[a]

Adult female.—Length (skins), 194–213 (202); wing, 96–103 (99.8); tail, 85–93.5 (89.6); exposed culmen, 20–21 (20.6); tarsus, 22–24 (22.8); middle toe, 13.5–15 (14.2).[b]

Lower Rio Grande Valley of Texas (Fort Brown and Fort Clark) and southward through eastern Mexico, in States of Tamaulipas (Mier; Linares; China; Soto la Marina; Tampico; Alta Mira), Nuevo Leon (Monterey), Coahuila (Sabinas), Vera Cruz (Cordova; Antigua;

[a] Ten specimens from Texas.

[b] Seven specimens (four from Texas, two from Nuevo Leon, one from Vera Cruz).

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Pasa Nueva; Boca del Rio; Minatitlan), Puebla (Atlixco), Oaxaca (Tapana; Santa Efigenia, December; Tehuantepec City, December), Tabasco (Teapa; Frontera), Yucatan (Peto; Buctzotz; Chichen-Itza; La Vega; Merida; Temax; Cozumel Island), to British Honduras (Cayo; Orange Walk), Guatemala, Honduras (Ruatan Island; San Pedro; Ceiba; Truxillo) and Salvador (Acajutla).

(?) *Tyr[annula] mexicana* KAUP, Proc. Zool. Soc. Lond., 1851 (pub. Oct. 28, 1852), 51 (Mexico; coll. Kaup and Brit. Mus.; see Baird, Rep. Pacific R. R. Surv., ix, 1858, 180; Sclater, Proc. Zool. Soc. Lond., 1871, 84; Nelson, Proc. Biol. Soc. Wash., xvii, 1904, 25, 26).

Myiarchus mexicanus SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz); 1871, 84, 85 (crit.); Cat. Birds Brit. Mus., xiv, 1888, 250, part (Merida and Cozumel I., Yucatan; Ruatan I. and San Pedro, Honduras; Atlixco, Puebla; Oaxaca?).[a]—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557, 560 (tierra caliente of Vera Cruz).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 13, part (crit.); Nom. N. Am. Birds, 1881, no. 311, part.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Check List, 1886, no. 453 (excl. citation of Lawrence, "Ann. Lyc. N. Y., ix, May, 1869, 202," = *M. yucatanensis* Lawrence!); 2d ed., 1895, no. 453 (excl. citation of "Baird, B. N. Am., 1858, 179," and "B. 132," = *M. cinerascens* Lawrence!); Auk, xiv, 1907, 127 (excl. ref. *Myiarchus mexicanus* Lawrence, Ann. Lyc. N. Y., ix, 1869, 202).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 344 (crit.).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 263, pl. 2, figs. 10, 11 (eggs).—NELSON, Proc. Biol. Soc. Wash., xvii, 1902, 31 (monogr.).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 252.

[*Myiarchus*] *mexicanus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 143.

M[yiarchus] mexicanus RIDGWAY, Man. N. Am. Birds, 1887, 333.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 519.

Myiarchus mexicanus mexicanus BANGS, Bull. Mus. Comp. Zool., xxxix, July, 1903, 148 (Ceiba, Honduras).

M[yionax] mexicanus CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 74 (Mexico).

[*Myiarchus mexicanus*] *α. mexicanus* RIDGWAY, Proc. Biol. Soc. Washington, ii, 1884, 92 (crit.).

(?) *Tyrannula cooperi* KAUP, Proc. Zool. Soc. Lond., 1851 (pub. Oct. 28, 1852), 51 ("Northern America and Chili").[b]

Myiarchus cooperi (not *Tyrannula cooperi* Kaup?) BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 180 (Mexico); Cat. N. Am. Birds, 1859, no. 132.—SCLATER, Proc. Zool. Soc. Lond., 1859, 384; 1871, 84 (crit.); Cat. Am. Birds, 1862, 232 (Mexico; Guatemala).—SCLATER and SALVIN, Ibis, 1859, 122, 440 (Guatemala); Proc. Zool. Soc. Lond., 1870, 837 (San Pedro, Honduras).

Myiarchus crinitus, c. var. *cooperi* COUES, Proc. Ac. Nat. Sci. Philad., July, 1872, 67, part.

[*Myiarchus crinitus*] var. *cooperi* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 331, part.

Myiarchus crinitus, var. *cooperi* LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 28, part (Tapana and Santa Efigenia, Oaxaca).

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[a] In so difficult a group it is of course impossible to accurately separate localities without having seen the specimens.

[b] Not identifiable from description, and type no longer extant. (See Baird, Rep. Pacific R. R. Surv., ix, 1858, 180; Sclater, Proc. Zool. Soc. Lond., 1871, 84; Nelson, Proc. Biol. Soc. Wash., xvii, 1904, 25, 26.)

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Myiarchus erythrocercus var. *cooperi* RIDGWAY, Proc. U. S. Nat. Mus., i, 1878, 138 (Fort Brown, Texas; crit.; synonymy).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 138 (Fort Brown, Texas; descr. nest and eggs).

[*Pyrocephalus*] *cooperi* GRAY, Hand-list, i, 1869, 362, no. 5521.

Myiarchus crinitus erythrocercus (not M. *erythrocercus* Sclater and Salvin) COUES and SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 1, Feb., 1878, 32 (Hidalgo, Texas).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 90 (Fort Brown and Hidalgo, Texas).

M[yiarchus] c[rinitus] erythrocercus COUES, Key N. Am. Birds, 2d ed., 1884, 435.

Myiarchus crinitus, var. *erythrocercus* MERRILL, Bull. Nutt. Orn. Club, iii, Apr., 1878, 99, 100 (Fort Brown, Texas; descr. nest and eggs).

Myiarchus erythrocercus (not of Sclater and Salvin) COUES, Check List, 2d ed., 1882, no. 374.

Myiarchus crinitus, b. var. *irritabilis* (not *Tyrannus irritabilis* Vieillot) COUES, Proc. Ac. Nat. Sci. Philad., July 2, 1872, 65, part (Yucatan; Guatemala?).

Myiarchus magister (not *M. mexicanus magister* Ridgway) SALVIN and GODMAN, Biol. Centr. Am., Aves, ii, 1889, 89, part (Sierra Madre above Ciudad Victoria, Sota la Marina, and Tampico, Tamaulipas; Vera Cruz; Teapa; Chiapas; Peto, Buctzotz, and Cozumel I., Yucatan; Cayo and Orange Walk, British Honduras; Ruatan I., and San Pedro, Honduras; Guatemala).—SALVIN, Ibis, 1889, 361 (Cozumel I., Yucatan; Ruatan I., Honduras; crit. as to nomenclature).

MYIARCHUS MEXICANUS MAGISTER Ridgway.

ARIZONA CRESTED FLYCATCHER.

Similar to *M. m. mexicanus*, but decidedly larger.

Adult male.—Length (skins), 202–228 (217); wing, 102–114 (108.9); tail, 95–105 (99); exposed culmen, 22.5–26.5 (24.1); tarsus, 23–26 (24.7); middle toe, 14.5–17 (15.4).[a]

Adult female.—Length (skins), 204–222 (216); wing, 102–109.5 (106.5); tail, 92.5–99 (96.2); exposed culmen, 23.5–25.5 (24.3); tarsus, 23.5–26 (24.2); middle toe, 14.5–16 (15.2).[b]

[a] Eighteen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Arizona	112.4	102.4	24.3	25.1	16.1
Three adult males from Tepic, Jalisco, and Morelos	109.2	100.3	25	25.5	15.7
Two adult males from Guerrero and Oaxaca	106.3	95.3	24	23.8	14.8
Six adult males from Tres Marias Islands	105.5	95.6	23.5	24	14.8
FEMALES.					
Five adult females from Arizona	107.9	97.6	24	24.3	15.5
One adult female from Sonora	106.5	96.5	25	26	15.5
Two adult females from Tepic and Jalisco	104.5	93.5	24	23.8	14.5
Two adult females from Guerrero and Oaxaca	105.8	95	25.5	24	15.8
One adult female from Tres Marias Islands	105.5	97	23	23.5	14.5

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Southern Arizona (Camp Lowell; Tucson; Florence; Riverside; Rillito Creek; Bear Valley; Papago Reservation; Santa Catalina Mountains) and southwestern New Mexico (Gila River) and southward through western Mexico, in States of Sonora (Ortiz; Ysleta), Sinaloa (Mazatlan; Escuinapa), Jalisco (Barranca Ibarra; Hacienda El Molino; Guadalajara), Morelos (Puente de Ixtla), Michoacan (La Salada), Guerrero (Acapulco; Papayo; Acahuitzotla), Oaxaca (Tehuantepec City; Tapana; Santa Efigenia; Santo Domingo), and Chiapas (San Benito), and Territory of Tepic (Santiago; Tres Marias Islands).

Myiarchus mexicanus (not *Tyrannula mexicana* Kaup) LAWRENCE, Proc. Bost. Soc. N. H., xiv, 1871, 278 (Tres Marias Islands, w. Mexico); Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan, Sinaloa, Tres Marias Islands; descr. nest and eggs).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 250, part (Tres Marias).

Myiarchus crinitus, c. var. *cooperi* (not *Myiarchus cooperi* Baird ex *Tyrannula cooperi* Kaup) COUES, Proc. Ac. Nat. Sci. Philad., July 2, 1872, 67. part (Mazatlan; Guadalajara).

[*Myiarchus crinitus*] var. *cooperi* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 331, part (Mazatlan).

(?) *Myiarchus cooperi* SALVIN and SCLATER, Ibis, 1859, 122 (Guatemala).

Myiarchus cooperi (not of Baird) SCLATER, Proc. Zool. Soc. Lond., 1859. 384 (Oaxaca), 440 (Oaxaca; Guatemala?).—BREWSTER, Bull. Nutt. Orn. Club, vi, Oct., 1881, 252 (Camp Lowell, Arizona).

Myiarchus mexicanus cooperi BREWSTER, Bull. Nutt. Orn. Club, vii, Oct., 1882, 203 (Camp Lowell, Arizona, and Gila R., New Mexico; habits; descr. nest and eggs).—RIDGWAY, Bull. Nutt. Orn. Club, vii, 1882, 258 (Camp Lowell).

Myiarchus erythrocercus, var. *cooperi* RIDGWAY, Proc. U. S. Nat. Mus., i, 1878, 139, part (Tres Marias; Mazatlan; Guadalajara).

Myiarchus crinitus cooperi COUES, Check List, 2d ed., 1882, no. 880 (Arizona).

M[yiarchus] c[rinitus] cooperi COUES, Key N. Am. Birds, 2d ed., 1884, 435.

Myiarchus mexicanus magister RIDGWAY, Proc. Biol. Soc. Washington, ii, Apr. 10, 1884, 90 (Camp Lowell, Arizona; coll. U. S. Nat. Mus.).—BREWSTER, Auk, ii, 1885, 198 (Camp Lowell; descr. young).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 453*a*.—SCOTT, Auk, iv, 1887, 17 (Tucson, Florence, Riverside, and Santa Catalina Mts., Arizona, up to 4,500 ft.; habits).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 344 (crit.).—JOUY, Proc. U. S. Nat. Mus., xvi, 1893, 783 (Hacienda El Molino, Jalisco, June).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 264, pl. 2, fig. 12.—NELSON, North Am. Fauna, no. 14, 1899, 48 (Tres Marias Islands); Proc. Biol. Soc. Wash., xvii, 1904, 33 (monogr.).—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 357 (Escuinapa, Sinaloa, July).—SWARTH, Condor, vii, 1905, 28 (Papago Reservation, Arizona; habits).

M[yiarchus] mexicanus magister RIDGWAY, Man. N. Am. Birds, 1887, 333.

M[yiarchus] m[exicanus] magister BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 252.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 520.

Myiarchus mexicanus, b. *magister* RIDGWAY, Proc. Biol. Soc. Washington, ii, 1884, 92.

Myiarchus magister SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 89, part (Ysleta, Sonora; Mazatlan; Tres Marias).

[*Myiarchus*] *magister* SHARPE, Hand-list, iii, 1901, 144.

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MYIARCHUS CINERASCENS CINERASCENS (Lawrence).

ASH-THROATED FLYCATCHER.

Similar to *M. mexicanus mexicanus*, but much smaller (except wing), bill relatively much smaller, color of back either grayer or browner (less olive), yellow of under parts paler, and inner webs of lateral rectrices with cinnamon-rufous occupying nearly the whole width of web but not extending to tip (except in some females).

Adult male.—Pileum broccoli brown or hair brown, the feathers darker centrally; rest of upper parts plain grayish brown (more brownish in some winter specimens), the hindneck more grayish; tail deep or dusky grayish brown, the outer webs of rectrices edged with paler, that of outermost rectrix decidedly paler, sometimes approaching dull white; inner webs of rectrices (except middle pair) cinnamon-rufous, this extending quite to shaft for greater part, but gradually contracted terminally and on at least the lateral rectrix cut off from tip by a terminal or subterminal area of dusky grayish brown; wings dusky grayish brown, the middle and greater coverts broadly tipped with pale grayish brown, pale buffy brown, or dull whitish, secondaries edged with pale buffy brownish or dull whitish, and primaries edged (except terminally) with cinnamon-rufous; sides of head and neck gray, slightly tinged with brown, especially on auricular region, gradually fading below into much paler gray (about no. 10) of malar region, chin, throat, chest, and upper breast, the rest of under parts very pale yellow, deeper (primrose yellow) posteriorly; axillars and under wing-coverts primrose yellow; inner webs of remiges edged with pale cinnamon-rufous; bill brownish black to dark horn color, usually more brownish basally; iris brown; legs and feet black; length (skins), 187–207 (197); wing, 98.5–104 (100.9); tail, 88.5–97 (92.5); exposed culmen, 18–20 (19.1); tarsus, 21.5–24 (22.8); middle toe, 12–13.5 (12.9).[a]

Adult female.—Similar to the adult male, but usually with the dusky terminal or subterminal space on inner web of lateral rectrices smaller, as a rule not entriely crossing the web and sometimes not extending halfway across; length (skins), 174–205 (189); wing, 92–100.5 (95.5); tail, 84–92 (87.1); exposed culmen, 17–19.5 (18.6); tarsus, 22–23.5 (22.6); middle toe, 12.5–13.5 (12.8).[b]

Young.—Essentially like adults, but pileum cinnamon-brown or wood brown, rectrices cinnamon-rufous with a median streak of grayish brown, upper tail-coverts strongly tinged with cinnamon-rufous, outer webs of remiges mostly buffy cinnamon-rufous, other wing-markings tinged with cinnamon-buff, and yellow of under parts much paler (yellowish white).

[a] Eighteen specimens.

[b] Thirteen specimens.

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Western United States and northern Mexico; north to southern Oregon (Camp Harney; John Day River), Nevada (Truckee Valley; Ruby Mountains), Utah (Parleys Park) and Colorado (El Paso County); breeding southward to northern Mexico, in States of Sonora (Batamotol; La Chumata; Opodepe), Chihuahua (Casas Grandes; San Diego), Sinaloa (Rosario; Mount Lisiarraga[a]), Coahuila (Monclovia; Sabinas), Durango (Durango City), and southwestern Tamaulipas (Miquihuana) and northern Lower California (Cocopah Mountains); eastward to central and northern Texas (Tom Green, Mason, Bexar, Brewster, and Fannin counties); southward in winter over central and southern Mexico, in States of Colima (Manzanillo), Michoacan (La Salada; Los Reyes), Morelos (Cuernavaca), Hidalgo (Irolo), Puebla (Huehuetlan), Vera Cruz (Mirador; Papantla; Chichicaxtli), Guerrero (El Rincon; Tlapa), Oaxaca (Tehuantepec City; Tapana; Juchitan; Santa Efigenia), Chiapas (Comitan; Chiapa; Gineta Mountains), and Yucatan (Chichen-Itza) to Guatemala (Volcan de Fuego; Dueñas; Choacus; Barranca Honda; Nenton).

Myiobius crinitus (not *Muscicapa crinita* Linnæus) GAMBEL, Proc. Ac. Nat. Sci. Philad., i, 1847, 39 (Santa Barbara, California).

Tyrannula cinerascens LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., v, 1852 (pub. Sept., 1851), 121 (w. Texas; coll. G. N. Lawrence).—NEWBERRY, Rep. Pacific R. R. Surv., vi, pt. vi, 1857, 81 (San Francisco, California).

Myiarchus cinerascens BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 329.—SALVIN and SCLATER, Ibis, 1859, 121, part (Dueñas, Guatemala, Dec.).—SCLATER, Ibis, 1859, 384 (Oaxaca), 440 (Coahuila; Playa Vicente, Vera Cruz; Guatemala); Proc. Zool. Soc. Lond., 1859, 384 (Oaxaca, Mar.); 1871, 84, 85, in text (crit.); Cat. Am. Birds, 1862, 233, excl. syn. part (Fort Yuma; Orizaba, Vera Cruz); Cat. Birds Brit. Mus., xiv, 1888, 248 (Oaxaca; Juchitan; Tehuantepec; Mazatlan; Volcan de Fuego, Dueñas, and Choacus, Guatemala; etc.).—COUES, Proc. Ac. Nat. Sci. Philad., 1872, 69 (crit.); Check List, 1873, no. 248; Birds Northwest, 1874, 239.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 43, fig. 6.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 288 (Mazatlan, resident); Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Tapana, Santa Efigenia, and Tehuantepec City, Oaxaca; Gineta Mts., Chiapas; Oct., Nov., Jan., and Apr.).—RIDGWAY, Orn. 40th Parallel, 1877, 533 (Sacramento, California; Truckee Valley and Ruby Mts., Nevada; Parleys Park, Utah); Nom. N. Am. Birds, 1881, no. 313.—BENDIRE, Proc. Bost. Soc. N. H., 1877, 127 (Camp Harney, e. Oregon, rare sum. resid.).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 141 (Fort Brown, Texas; 2 specs.).—BREWSTER, Bull. Nutt. Orn. Club, iv, 1879, 42 (descr. young).—DREW, Auk, ii, 1885, 15 (Colorado, breeding at 4,000 to 7,000 ft.).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 155 (Huehuetlan, Puebla, Jan.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 454.—SCOTT, Auk, iv, 1887, 18 (Santa Catalina Mts., Arizona, breeding).—LLOYD, Auk, iv, 1887, 192 (Tom Green Co., w. Texas, breeding).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1888, 209 (Red Bluff and Baird, n. California).—COOKE, Bird Migr. Miss. Val., 1888, 149 (San Angelo, Mason,

[a] Other localities in Sinaloa, but not represented by breeding birds, are Mazatlan, Escuinapa, and Los Pieles.

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and Bonham, Texas, breeding).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 91.—ATTWATER, Auk, ix, 1892, 236 (San Antonio, Texas, com. sum. resid.).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 266, pl. 2, fig. 3 (eggs).—MERRIAM (Florence A.), Auk, xiii, 1896, 119 (s. California; notes).—CHAPMAN, Bull. Am. Mus. N. H., viii, 1896, 283 (Chichen-Itza, Yucatan).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 253.—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 33 (monogr.).—MILLER (L. H.), Condor, vi, 1904, 103 (John Day R., Oregon).—MONTGOMERY, Auk, xxii, 1905, 14 (Brewster Co., Texas, common).—SWARTH, Condor, vii, 1905, 28 (Papago Reservation, Arizona, breeding).

Myiarchus cinerescens (emendation) COUES, Check List, 2d ed., 1882, no. 375, part.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 204 (s. Arizona).

M[yiarchus] cinerescens COUES, Key N. Am. Birds, 2d ed., 1884, 436; 5th ed., i, 1903, 520.

M[yiarchus] cinerascens RIDGWAY, Man. N. Am. Birds, 1887, 333.

[*Myiarchus*] *cinerascens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 143.

Myiarchus cinerascens cinerascens GRINNELL (J.), Check List Calif. Birds, June 25, 1902, 42; Auk, xxii, 1905, 384 (Mount Piños, California).—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 357 (Escuinapa, Sinaloa, Aug. to Oct.; Los Pieles, Apr.; Mount Lisiarraga breeding).—THAYER and BANGS, Proc. Biol. Soc. Wash., xix, 1906, 19 (La Chumata and Opodepe, n.-centr. Sonora).

Myarchus crinitus, var. *cinerascens* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 172 (Wahsatch Mts., Utah), 184 (Colorado); viii, 1875, 38 (Nevada).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 337.

Myiarchus crinitus . . . var. *cinerascens* HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1873 (1874), 125 (Wingate and Inscription Rock, New Mexico); Zool. Exp. W. 100th Merid., 1875, 345 (localities in Arizona and New Mexico).

Myiarchus crinitus cinerascens RIDGWAY, Bull. Essex Inst., v, Oct., 1874, 172 (Sacramento Valley); vii, 1875, 15 (Truckee Valley, Nevada), 33 (Parleys Park, Utah).

Myiarchus cinereus (error) STONE, Proc. Ac. Nat. Sci. Phila., Sept., 1905, 682 (Colorado Delta, Lower California).

Myiarchus mexicanus (not *Tyrannula mexicana* Kaup?) BAIRD, Rep. Ives' Colorado Exped., 1857–8, pt. iv, 5; Rep. Pacific R. R. Surv., ix, 1858, 179; ed. 1860 ("Birds N. Am."), 179, pl. 5; Cat. N. Am. Birds, 1859, no. 131; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 8.—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, 37, pl. 5 (Posa Creek, California).—XANTUS, Proc. Ac. Nat. Sci. Philad., 1859, 190 (Fort Tejon, California).—DRESSER, Ibis, 1865, 473 (Texas, com. e. to the Guadalupe R., rare eastward).—COUES, Proc. Ac. Nat. Sci. Philad., 1866, 59 (Fort Whipple, Arizona).—COOPER, Orn. Cal., 1870, 316.—AIKEN, Proc. Bost. Soc. N. H., 1872, 205 (El Paso Co., Colorado).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 667 (San Antonio, Texas).—COOKE, Bird Migr. Miss. Val., 1888, 149 (San Antonio, Texas).

M[yionax] mexicanus CABANIS and HEINE, Mus. Hein., ii, 1859, 74.

[*Pyrocephalus*] *mexicanus* GRAY, Hand-list, i, 1869, 362, no. 5519.

Myiarchus nuttingi (not of Ridgway) FISHER,[a] Auk, ix, 1892, 394 (Rillito Creek, near Tucson, Arizona, breeding).—OBERHOLSER, Auk, xix, 1902, 300 (s. of Alpine, w. Texas).

[a] The author of the present work is responsible for the above erroneous identification.

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[*Myiarchus*] *nuttingi* SHARPE, Hand-list, iii, 1901, 144, part (Arizona).

Myiarchus cinerascens nuttingi AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, x, Jan., 1893, 60 (check list no. 454*a*); Check List, 2d ed., 1895. no. 454*a*, part (Arizona).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 269. pl. 2, fig. 14 (egg).—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 22 (Huachuca Mts., Arizona, breeding).

M[*yiarchus*] *cinerascens nuttingi* RIDGWAY, Man. N. Am. Birds, 2d ed., 1896. 334, part (Tucson, Arizona).

M[*yiarchus*] *c*[*inerascens*] *nuttingi* BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 253.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 521.

MYIARCHUS CINERASCENS PERTINAX (Baird).

LOWER CALIFORNIA FLYCATCHER.

Similar to *M. c. cinerascens*, but color of back, etc., decidedly more olivaceous (light grayish olive or olive-greenish, instead of hair brown),[a] yellow of under parts averaging slightly deeper; wing and tail averaging shorter and bill larger.

Adult male.—Length (skins), 182–211 (196); wing, 92–102 (98.3); tail, 88–95.5 (91.1); exposed culmen, 19–21 (19.7); tarsus, 22–23.5 (22.8); middle toe, 13–14 (13.4).[b]

Adult female.—Length (skins), 183–205 (192); wing, 88.5–101 (93.6); tail, 81.5–93.5 (87); exposed culmen, 17.5–20 (19); tarsus, 19.5–23.5 (22.6); middle toe, 11.5–13.5 (13.1).[c]

Southern Lower California (Cape San Lucas; San José del Cabo; Todos Santos; El Potrero; El Cajoncito; La Paz; Santa Anita; Mulejé; Pichilinque Bay).

Myiarchus mexicanus (not *Tyrannula mexicana* Kaup) BAIRD, Proc. Ac. Nat. Sci. Phila., 1859, 301 (Cape San Lucas), 303 (do., crit.).—COOPER, Orn. Cal., 1870, 316, 317, part (Cape San Lucas; crit.).

M[*yiarchus*] *pertinax* BAIRD, Proc. Ac. Nat. Sci. Phila., 1859, 303, in text (Cape San Lucas, Lower California; coll. U. S. Nat. Mus.).

Myiarchus mexicanus, var. *pertinax* COOPER, Orn. Cal., 1870, 317, in text.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 337, footnote.

Myiarchus cinerascens pertinax BREWSTER, Bull. Mus. Comp. Zool., xli, 1902, 117 (full synonymy; crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xx, 1903, 342 (check list no. 454*b*).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 34 (monogr.).—KAEDING, Condor, vii, 1905, 134 (San José del Cabo).

Myiarchus cinerascens (not *Tyrannula cinerascens* Lawrence) COUES, Proc. Ac. Nat. Sci. Phila., 1872, 69, 70, part (Cape San Lucas; crit.); Check List, 1873, no. 248, part.—COUES and STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 12 (Pichi-

[a] This difference in coloration of the upper parts very obvious and in the series examined quite constant, when specimens in fresh plumage are compared. The difference in the yellow of the under parts is equally obvious in a majority of the specimens but is not entirely constant.

[b] Ten specimens.

[c] Eight specimens.

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linque Bay; Cape San Lucas).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 313, part.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 541 (Cape district).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 454, part.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 248, 249, part (La Paz; Cape San Lucas).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 290, part (in synonymy).—BRYANT, Proc. Calif. Ac. Sci., 2d ser., 1889, 290, part, at least (Lower California generally).

Myiarchus crinitus, var. *cinerascens* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 337, part (Cape San Lucas).

Myiarchus cinerescens (emendation) COUES, Check List, 2d ed., 1882, no. 375, part.

M[yiarchus] cinerescens COUES, Key N. Am. Birds, 2d ed., 1884, 436, part; 4th ed., 1894, 436, part (Cape San Lucas; crit.); 5th ed., i, 1903, 520, part.

M[yiarchus] cinerascens RIDGWAY, Man. N. Am. Birds, 1887, 333, part.

MYIARCHUS NUTTINGI NUTTINGI Ridgway.

NUTTING'S FLYCATCHER.

Similar to *M. cinerascens* but much smaller, color of back, etc., browner or more olivaceous, yellow of under parts deeper, and inner webs of rectrices (except middle pair) wholly cinnamon-rufous or with only a narrow space along shaft near end.

Adults (*sexes alike*).—Above light olive to grayish brown, the pileum browner (broccoli brown) with feathers darker centrally, the upper tail-coverts more or less tinged or edged with rusty; both webs of middle rectrices and outer webs of others deep grayish brown, the outer web of lateral rectrix paler, sometimes approaching dull white; inner webs of rectrices (except middle pair) wholly cinnamon-rufous or else with a more or less narrow space terminally next to shaft; wings dusky grayish brown, the middle and greater coverts broadly tipped with pale grayish brown to dull buffy whitish, the secondaries edged with the same, the edgings broader and more whitish on proximal (inner) secondaries, narrower and tinged with rusty on distal (outer) secondaries; primaries broadly edged (except terminally) with cinnamon-rufous; greater coverts narrowly edged with pale grayish brown; sides of head and neck gray, slightly tinged with light olive-brown, gradually fading below into the pale gray (about no. 10) of malar region, chin, throat, and chest; rest of under parts, including axillars and under wing-coverts, light yellow(deep primrose to between pale canary and straw yellow); inner webs of remiges edged with pinkish buff; bill brownish black or blackish brown, the mandible paler brownish basally; iris brown; legs and feet dusky brown to brownish black.

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Adult male.—Length (skins), 171–187 (180); wing, 85–92.5 (89.6); tail, 77.5–90 (84.7); exposed culmen, 15–18.5 (17); tarsus, 20–23 (21.3); middle toe, 11–12.5 (12.1).[a]

Adult female.—Length (skins), 160–184 (172); wing, 83.5–89 (86.2); tail, 73.5–86 (79.7); exposed culmen, 16–19 (17.3); tarsus, 20–21.5 (20.7); middle toe, 11–13 (11.8).[b]

States of Oaxaca (Ishuatan) and Chiapas (San Vicente; San Bartolomé; Chiapa; Ocozucuantla; Gineta Mountains), southern Mexico; Guatemala (Nenton); Honduras (boundary between Honduras and Nicaragua), and southward to western Costa Rica (La Palma de Nicoya; Bocaces).

(?) *Myiarchus cinerascens* (not *Tyrannula cinerascens* Lawrence?) BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (Punta Arenas, Costa Rica).

Myiarchus nuttingi RIDGWAY, Proc. U. S. Nat. Mus., v, Sept. 5, 1882, 395, (La Palma de Nicoya, w. Costa Rica; coll. U. S. Nat. Mus.).—REICHENOW and SCHALOW, Journ. für Orn., 1884, 384 (reprint of orig. descr.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 250 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 92, part (La Palma de Nicoya, Costa Rica).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 346 (crit.).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 37 (monogr.).

M[yiarchus] nuttingi RIDGWAY, Man. N. Am. Birds, 1887, 334.

[*Myiarchus*] *nuttingi* SHARPE, Hand-list, iii, 1901, 144, part.

Myiarchus cinerascens nuttingi ALLEN, Bull. Am. Mus. N. H., iv, Dec., 1892, 346 (crit.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 454*a*, part.

M[yiarchus] cinerascens nuttingi RIDGWAY, Man. N. Am. Birds, 2d ed., 1896. 334, part.

MYIARCHUS NUTTINGI BRACHYURUS (Ridgway).

OMETEPE FLYCATCHER.

Similar to *M. n. nuttingi* in coloration, but decidedly larger.

Adult male.—Length (skins), 174–194 (185); wing, 93–98.5 (95.9); tail, 82–90 (85.2); exposed culmen, 19.5–20.5 (20.2); tarsus, 22–23 (22.6); middle toe, 13.5–14 (13.6).[c]

[a] Seven specimens.

[b] Nine specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male (type; sex erroneously determined?) from Costa Rica	85	77.5	16.5	20	11
Six adult males from Chiapas (5) and Oaxaca (1)	90.4	85.9	17.1	21.9	12.3
FEMALES.					
Four adult females from Costa Rica	86.1	76.6	18.2	20.4	11.6
Five adult females from Guatemala (1), Chiapas (3), and Oaxaca (1)	86.2	82.2	16.6	21	11.9

[c] Six specimens.

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Adult female.—Length, (skins), 172–192 (180); wing, 91.5–100 (94.3); tail, 80–87.5 (82.3); exposed culmen, 19–21 (20.3); tarsus, 21–23.5 (22.2); middle toe, 12–14 (13.1).[a]

State of Chiapas (Tonalá), southern Mexico; Nicaragua (Ometepe; San Juan del Sur); western Costa Rica (Miravalles; San Lucas; Mojica Pacifica; Bahia de Salinas).

I am very doubtful whether this supposed form is really distinct from *M. n. nuttingi*. The only difference is in dimensions, and it is difficult in the case of some specimens to decide which form they should be referred to; and, what is especially significant, the range of each is practically the same.

Myiarchus nuttingi (not of Ridgway) NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 374 (San Juan del Sur, Nicaragua), 393 (Ometepe, Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 92, part (San Juan del Sur and Ometepe, Nicaragua).

M[yiarchus] brachyurus RIDGWAY, Man. N. Am. Birds, 1887, 334 (Ometepe, Nicaragua; coll. U. S. Nat. Mus.).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 346, in text (crit.).

Myiarchus brachyurus RIDGWAY, Man. N. Am. Birds, 1887, 592; 2d ed., 1896, 613.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 92, footnote.—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 40 (monogr.).

[*Myiarchus*] *brachyurus* SHARPE, Hand-list, iii, 1901, 143.

MYIARCHUS NUTTINGI INQUIETUS (Salvin and Godman).

GUERRERO FLYCATCHER.

Similar to *M. n. nuttingi*, but inner webs of rectrices with a stripe, more or less broad, next to shaft, of dusky grayish brown.

Adult male.—Length (skins), 175–197 (184); wing, 88–96.5 (91.2); tail, 83–92 (90.8); exposed culmen, 17–19 (18); tarsus, 21–23 (21.7); middle toe, 12–13 (12.4)).[b]

Adult female.—Length (skins), 174–188 (182); wing, 84.5–89.5 (87.1); tail, 78–83.5 (81.9); exposed culmen, 15.5–18.5 (17.3); tarsus, 20.5–22.5 (21.3); middle toe, 11.5–13 (12.2).[c]

Western, central, and southern Mexico, in States of Sonora (Alamos; Oputa; Bacadehuachy), Chihuahua (Batopilas), Sinaloa (Culiacan), Jalisco (La Barca; Zapotlan), Durango (Chacala), Guanajuato, Zacatecas (San Juan Capistrano), Michoacan (La Salada; Zamora), Morelos (Ycapixtla), Puebla (Tehuacan), Guerrero (Chilpancingo; Tierra Colorado; Rio Papagaio; Acapulco; Rio Balsas; El Rincon; El Naranjo; La Lagunilla; Papayo; Tlalixquatilla; Acahuitzotla; Dos Arroyos), Oaxaca (Chihuitan; Santa Efigenia; Huilotepec; Tehuantepec), and Chiapas (Gineta Mountains), and Territory of Tepic (Acaponeta.)

[a] Seven specimens. [b] Ten specimens. [c] Nine specimens.

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Myiarchus crinitus, c. var. *cooperi* (not *Tyrannula cooperi* Kaup) COUES, Proc. Ac. Nat. Sci. Phila., 1872, 67, part (small specimens from Isthmus of Tehuantepec).

Myiarchus crinitus, var. *irritabilis* (not *Tyrannus irritabilis* Vieillot) BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 331, footnote, part (specimens grading "into var. *cinerascens* in Tehuantepec").

Myiarchus cinerascens (not *Tyrannula cinerascens* Lawrence) LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 28, part (Santa Efigenia and Tehuantepec City, Oaxaca; Gineta Mts., Chiapas).

Myiarchus inquietus SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 88 (Acahuitzotla, Guerrero, s. w. Mexico; coll. Salvin and Godman).—ALLEN, Bull. Am. Mus. N. H., v, 1893, 36 (Oputo, n. e. Sonora; Bacadehuachy, Sonora; crit.).

[*Myiarchus*] *inquietus* SHARPE, Hand-list, iii, 1901, 144.

Myiarchus nuttingi inquietus NELSON, Proc. Biol. Soc. Wash., xvii, Mar. 10, 1904, 38 (monogr.).—MILLER (W. D.), Bull. Am. Mus. N. H., 1905, 357 (Escuinapa, Sinaloa).

Myiarchus nuttingi (not of Ridgway) SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 92, part (Guanajuato; Tehuantepec City).—LANTZ, Trans. Kansas Ac. Sci. for 1896–97 (1899), 222 (Culiacan, Sinaloa).

[*Myiarchus*] *nuttingi* SHARPE, Hand-list, iii, 1901, 144, part (w. Mexico).

MYIARCHUS YUCATANENSIS Lawrence.

YUCATAN FLYCATCHER.

Adults (*sexes alike*).—Pileum sepia brown, the feathers with darker shaft-streaks; rest of upper parts plain olive (the scapulars and interscapulars sometimes with very indistinct darker shaft-streaks), the upper tail-coverts browner, sometimes edged with rusty; tail deep grayish brown, the outer webs of rectrices edged with paler brown, that of lateral rectrix much paler, with edge sometimes dull whitish; inner webs of rectrices (except middle pair and, usually, outer pair) with less than half of outer portion cinnamon-rufous; wings deep grayish brown, the middle and greater coverts tipped with light olive or buffy grayish brown, the margins paler; greater coverts and secondaries edged with pale buffy olive or buffy whitish, the edgings broader and more whitish on proximal (inner), tinged with rusty on distal (outer) secondaries; primaries edged (except terminally) with cinnamon-rufous or rusty; sides of head and neck gray, tinged with brownish olive (especially on auricular region), fading gradually below into the clear light gray (about no. 8) of malar region, chin, throat, and chest; rest of under parts, including axillars and under wing-coverts, light (deep primrose) yellow; inner webs of remiges edged with pale rufous-cinnamon; bill black, or brownish black, the mandibular rami more brownish; iris brown; legs and feet black.

Adult male.—Length (skins), 172–183 (178); wing, 83–87.5 (84.6); tail, 78.5–84.5 (82.2); exposed culmen, 17–19 (18.2); tarsus, 20–22 (20.9); middle toe, 11–12.5 (11.6).[a]

[a] Eight specimens.

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Adult female.—Length (skins), 171–182 (175); wing, 77.5–86 (81.8); tail, 76–85 (80.9); exposed culmen, 17–18.5 (17.9); tarsus, 21–22.5 (21.8); middle toe, 10.5–12 (11.3).[a]

Yucatan (Merida; Temax; La Vega; Chichen-Itza; Puerto Morelos; Tunkas; Tabi; Peto; Cozumel Island).

Myiarchus mexicanus (not *Tyrannula mexicana* Kaup) LAWRENCE, Ann. Lyc. N. Y., ix, May, 1869, 202 (Merida, Yucatan).

Myiarchus yucatanensis LAWRENCE, Proc. Ac. Nat. Sci. Philad., xxii, Nov. 21 (pub. Dec. 5), 1871, 235 (Merida, Yucatan; coll. G. N. Lawrence).—RIDGWAY, Proc. Biol. Soc. Washington, ii, 1884, 92 (crit.); Proc. U. S. Nat. Mus., xvi, 1893, 606–608 (crit.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 260 (n. Yucatan; Cozumel I.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 93 (Merida, Tabi, and Peto, Yucatan; Cozumel I.).—SALVIN, Ibis, 1889, 362 (Cozumel; crit.).—ALLEN, Bull. Am. Mus. N. H., iv, 1892, 345 (crit.).—CHAPMAN, Bull. Am. Mus. N. H., viii, 1896, 283 (Chichen-Itza, Yucatan; crit.).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 41 (monogr.).

M[yiarchus] yucatanensis RIDGWAY, Man. N. Am. Birds, 1887, 334.

[*Myiarchus*] *yucatanensis* SHARPE, Hand-list, iii, 1901, 146.

MYIARCHUS STOLIDUS (Gosse).

STOLID FLYCATCHER.

Similar to *M. antillarum*, but inner webs of rectrices (except middle and outer pairs) broadly edged with cinnamon-rufous, chin and throat paler (nearly white), and under parts of body primrose yellow.

Adults (sexes alike).—Pileum deep sooty brown (dark sepia to nearly clove brown; rest of upper parts lighter, more olive-brown; tail dusky, the outer webs of rectrices passing into light grayish brown on edges (that of outermost rectrix paler and edged with dull whitish), their inner webs (except middle and outer pairs) broadly edged with cinnamon-rufous, this occupying, approximately, between one-third and one-half the web; wings dusky, the middle and greater coverts broadly tipped with pale grayish brown (still paler, sometimes whitish, on terminal margins), the secondaries edged (broadly on innermost) with dull whitish, the shorter primaries narrowly edged with cinnamon-rufous or rusty; sides of head and neck sooty brown, the lores mixed pale grayish or grayish white and dusky; malar region, chin, throat, and chest grayish white; rest of under parts pale (primrose) yellow; axillars and under wing-coverts primrose yellow; inner webs of remiges edged with cinnamon-buff, or buffy cinnamon; bill horn brown to blackish brown, darker terminally, paler on basal portion of mandible; legs and feet dusky brown.

Adult male.—Length (skins), 162–176 (167); wing, 80.5–87.5 (84.8); tail, 74–84 (79.8); exposed culmen, 17–19.5 (18.5); tarsus, 20.5–21 (20.9); middle toe, 12.5–13 (12.8).[a]

[a] Four specimens.

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Adult female.—Length (skins), 174–181 (177); wing, 80–87.5 (83.7); tail, 76.5–82 (78.8); exposed culmen, 18–18.5 (18.3); tarsus, 20.5–21.5 (21); middle toe, 11.5–12 (11.8).[a]

Island of Jamaica, Greater Antilles.

Myiobius stolidus GOSSE, Birds Jamaica, 1847, 168 (Jamaica); Illustr. Birds Jamaica, 1849, pl. 42.

Tyr[annula] stolida KAUP, Proc. Zool. Soc. Lond., 1851, 51 (Jamaica; crit.).

Myiarchus stolidus CABANIS, Journ. für Orn., 1855, 479.—SCLATER, Proc. Zool. Soc. Lond., 1861, 77; Cat. Am. Birds, 1862, 234; Cat. Birds Brit. Mus., xiv, 1888, 260 (Metcalfe Parish, Jamaica).—ALBRECHT, Journ. für Orn., 1862, 199.—MARCH, Proc. Ac. Nat. Sci. Philad., 1863, 288.—COUES, Proc. Ac. Nat. Sci. Philad., 1872, 77 (crit.).—SALVIN, Cat. Strickland Coll., 1882, 316 (crit.).—CORY, Auk, iii, 1886, 237; Birds West Ind., 1889, 124; Cat. West Ind. Birds, 1892, 13, 108, 130.—SCOTT, Auk, x, 1893, 177.—NICOLL, Ibis, 1904, 577.

[*Myiarchus*] *stolidus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 147.

M[yiarchus] stolidus NEWTON (A. and E.), Handb. Jamaica, 1881, 107.

[*Pitangus*] *stolidus* GRAY, Hand-list, i, 1869, 358, no. 5438, part.

Myiarchus stolidus, a. var. *stolidus* COUES, Proc. Ac. Nat. Sci. Philad., 1872, 77, part (Jamaica).

[*Myiarchus stolidus*] var. *stolidus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 332, part (Jamaica).

MYIARCHUS DOMINICENSIS (Bryant).

SANTO DOMINGO FLYCATCHER.

Similar to *M. stolidus*, but slightly larger; cinnamon-rufous on inner webs of rectrices broader (occupying more than half the width of the web), even the lateral rectrix very broadly edged with the same; cinnamon-rufous edgings to primaries broader, and deeper in color; chin, throat, and chest pale gray instead of grayish white, and yellow of posterior under parts averaging paler.

Adults (sexes alike).—Pileum deep sooty brown (sepia to nearly clove brown); rest of upper parts lighter, more olive-brown; tail dark grayish brown, the rectrices edged with light grayish brown, their inner webs (except of middle pair) with inner half or more cinnamon-rufous; wings dark grayish brown, the middle and greater coverts broadly tipped or margined terminally with pale grayish brown (terminal margins sometimes whitish), secondaries edged (broadly on innermost) with whitish, and primaries (except two outermost) edged with cinnamon-rufous; sides of head and neck sooty brown, the lores pale grayish, intermixed with dusky; chin, throat, and chest pale gray (about no. 10); rest of under parts pale primrose yellow; axillars and under wing-coverts primrose yellow; inner webs of remiges edged with light cinnamon-rufous or buffy cinnamon; bill blackish brown, darker terminally; iris brown; legs and feet blackish brown.

[a] Three specimens.

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Adult male.—Length (skins), 169–181 (175); wing, 81.5–88.5 (86); tail, 75.5–80.5 (78.8); exposed culmen, 19–19.5 (19.3); tarsus, 20.5–21.5 (21.3); middle toe, 11–12.5 (11.9).[a]

Adult female.—Wing, 85; tail, 79.5; exposed culmen, 18.5; tarsus, 21; middle toe, 12.[b]

Island of Haiti, Greater Antilles.

Tyrannula stolida. [Var. *dominicensis*] BRYANT, Proc. Bost. Soc. N. H., xi, 1866 (pub. 1867), 90 (Santo Domingo; coll. U. S. Nat. Mus.).

Myiarchus dominicensis CORY, Birds Haiti and San Dom., 1885, 79, pl. [22], fig. 3; List Birds West Ind., 1885, 15; Auk, iii, 1886, 240; Birds West Ind., 1889, 127; Cat. West Ind. Birds, 1892, 13, 108.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 260 (Samaná, Santo Domingo).—CHERRIE, Contr. Orn. San Dom., 1896, 18.—CHRISTY, Ibis, 1897, 328 (Sanchez, Santo Domingo; food).

[*Myiarchus*] *dominicensis* CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 147.

[*Pitangus*] *stolidus* (not *Myiobius stolidus* Gosse) GRAY, Hand-list, i, 1869, 358, no. 5438, part.

Myiarchus stolidus, a. var. *stolidus* COUES, Proc. Ac. Nat. Sci. Philad., 1872, 77, part (Santo Domingo; Haiti).

Myiarchus stolidus CORY, Bull. Nutt. Orn. Club, vi, 1881, 153 (Haiti).

Myiarchus ruficaudatus CORY, Bull. Nutt. Orn. Club, viii, Apr., 1883, 95 (Santo Domingo; coll. C. B. Cory).

MYIARCHUS DENIGRATUS Cory.

GRAND CAYMAN CRESTED FLYCATCHER.

"SP. CHAR.—Top of the head dark blackish brown; back dull olive brown; sides of the head, cheeks, and ear-coverts dark brown, slightly lighter than the crown; throat and breast ash gray, shading into dull yellowish white on the belly and crissum; quill, very dark brown, some of the feathers edged with very pale rufous; tail-feathers dark brown edged with pale rufous on the inner webs; bill and feet black.

"Length, 6.25; wing, 3.15; tail, 3.00; tarsus, .80; bill, .60.

"HABITAT.—Grand Cayman, West Indies.

"This is a very dark species, easily distinguished from any other West Indian form." (Original description.)

This supposed form is unknown to me. The only example of the genus that I have seen from Grand Cayman is without doubt referable to *M. sagræ sagræ*, being absolutely indistinguishable from some Cuban specimens.

Myiarchus denigratus CORY, Auk, iii, Oct., 1886, 500, 502 (Grand Cayman, Greater Antilles; coll. C. B. Cory); v, 1888, 158; Birds West Ind., 1889, 293; Cat. West Ind. Birds, 1892, 13, 108, 145.—RIDGWAY, Proc. U. S. Nat. Mus., x, 1887, 574 (Grand Cayman).—NICOLL, Ibis, 1904, 583.

Myiarchus denegratus CORY, Cat. West Ind. Birds, 1892, 129.

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[a] Four specimens. [b] One specimen.

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MYIARCHUS SAGRÆ SAGRÆ (Gundlach).

LA SAGRA'S FLYCATCHER.

Adults (*sexes alike*).—Pileum deep sooty brown; rest of upper parts deep olive, somewhat grayer on hindneck, the upper tail-coverts more grayish brown (hair brown); tail dark grayish brown, the outer webs of rectrices passing into light olive on edges, the outer web of lateral rectrix edged with paler grayish brown or dull whitish; inner webs of rectrices (except middle and lateral pairs—sometimes the latter also) broadly edged with cinnamon-rufous, this occupying less than half the width of the web; wings dusky, the middle and greater coverts tipped with pale grayish olive and margined terminally with paler (dull whitish), the secondaries edged (except basally) with dull whitish or yellowish white (most broadly on the innermost ones), the primaries and greater coverts narrowly edged with pale grayish brown, this more or less tinged with rusty brown on inner secondaries; auricular region sooty, like pileum; sides of neck deep olive-gray; lores mixed pale grayish and sooty; malar region, chin, throat, chest, and sides of breast very pale gray (almost grayish white on chin and throat), passing into yellowish white or very pale primrose yellow on middle of breast, abdomen, flanks, and under tail-coverts; axillars and under wing-coverts pale primrose yellow; inner webs of remiges edged with pale cinnamon-buff; bill black, the mandible sometimes brownish basally; legs and feet black.

Young.—Essentially like adults, but pale wing-markings tinged with rusty or cinnamon-buffy, general color of upper parts browner (grayish brown), outer webs of rectrices edged with cinnamon, and cinnamon of inner webs broader.

Adult male.—Length (skins), 156–180 (171); wing, 81–85.5 (83.9); tail, 70–80.5 (78.3); exposed culmen, 18–20.5 (19.3); tarsus, 19.5–21 (20.2); middle toe, 11–13 (11.9).[a]

Adult female.—Length (skins), 163–171 (166); wing, 76–83 (80.2); tail, 71.5–79 (75.9); exposed culmen, 17.5–20 (18.2); tarsus, 19–20.5 (19.8); middle toe, 11–12 (11.2).[b]

[a] Fifteen specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Cuba	84.1	79.5	19.4	20.2	11.8
Five adult males from Isle of Pines	82.9	76	19	20.2	11.9
FEMALES.					
Eight adult females from Cuba	80.4	76.4	18	19.8	11.3
Two adult females from Isle of Pines	79.5	73.8	19	20.3	11

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Island of Cuba (including Isle of Pines), Greater Antilles; island of Grand Cayman, south of Cuba.[a]

Tyrannus phœbe (not *Muscicapa phœbe* Latham) D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 84 (excl. syn.).

Myiarchus stolidus, b. var. *phœbe* COUES, Proc. Ac. Nat. Sci. Philad., July 2, 1872, 78, part (Cuba).

[*Myiarchus*] *phœbe* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—CORY, List Birds West Ind., 1885, 15, part (Cuba).

Myiarchus phœbe CORY, Auk, iii, 1886, 238, part (Cuba).

Myiarchus stolidus, var. *phœbe* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 332, part (Cuba).

Muscicapa sagræ GUNDLACH, Journ. Bost. Soc. N. H., vi, 1852, 313 (Cuba; descr. eggs).

Myiarchus sagræ GUNDLACH, Journ. für Orn., 1872, 424 (Cuba; habits); Orn. Cub., 1893, 85.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 261, part (San Cristobal and Fermina, Cuba).—CORY, Birds West Ind., 1889, 125, part (Cuba); Cat. West Ind. Birds, 1892, 13, 108, 145, part (do.).—CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 303 (near Trinidad, s. Cuba).—BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 207 (Isle of Pines).

M[*yiarchus*] *sagræ* RIDGWAY, Man. N. Am. Birds, 1887, 334.

[*Myiarchus*] *sagræ* SHARPE, Hand-list, iii, 1901, 147.

[*Myiarchus sagræ*.] *α*. Subsp. *typica* SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 261 (in list of specimens).

Myiarchus stolidus (not *Myiobius stolidus* Gosse) CABANIS, Journ. für Orn., 1855, 479 (Cuba).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307.—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1865, 239.

M[*yiarchus*] *stolidus* CABANIS and HEINE, Mus. Hein., ii, 1859, 73 (Cuba).

[*Myiarchus*] *stolidus* GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).

[*Pitangus*] *stolidus* GRAY, Hand-list, i, 1869, 358, no. 5438, part.

MYIARCHUS SAGRÆ LUCAYSIENSIS (Bryant).

BAHAMA CRESTED FLYCATCHER.

Similar to *M. s. sagræ*, but decidedly larger, bill narrower, and color of back, etc., averaging slightly grayer.[b]

Adult male.—Length (skins), 179–187 (183); wing, 86.5–90 (88.6); tail, 80.5–84.5 (82.6); exposed culmen, 19–20.5 (19.7); tarsus, 20.5–22.5 (21.5); middle toe, 11.5–13 (11.9).[c]

Adult female.—Length (skins), 167–183 (177); wing, 82–86.5 (83.7); tail, 75.5–82 (78.1); exposed culmen, 18.5–20.5 (19.3); tarsus, 20–22 (21.2); middle toe, 11–12.5 (11.7).[d]

[a] An adult female in the U. S. National Museum collection (no. 111,212, Mar. 15, 1887, C. H. Townsend) is absolutely similar to some Cuban examples. Whether this represents *M. denigratus* Cory, or not, I am unable to say, examples of the latter being wanting from the series lent me by the Field Columbian Museum.

[b] I am unable to verify, in a large series of both forms, the alleged difference in amount of yellow suffusion on the posterior under parts (see Allen, Auk, viii, 1891, 72), there being about the same extent of individual variation in this character in both.

[c] Seven specimens.

[d] Ten specimens.

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Bahama Islands (Great Bahama; New Providence; Abaco; Little Abaco; Andros; Inagua; Green Cay; Berry Islands; Eleuthera; Crooked Island; Acklin Island).

Tyrannula stolida (var. *lucayaiensis*) BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 66 (Inagua and New Providence, Bahamas).

Myiarchus stolidus, var. *leucayaiensis* CORY, Birds Bahama I., 1880, 100.

M[yiarchus] lucayaiensis RIDGWAY, Man. N. Am. Birds, 1887, 334.

Myiarchus lucayaiensis NORTHRUP, Auk, viii, 1891, 72 (Andros I., Bahamas).—ALLEN, Auk, viii, 1891, 72 (crit.).

Myiarchus leucayaiensis BANGS, Auk, xvii, 1900, 288 (New Providence I.).—ALLEN (G. M.), Auk, xii, 1905, 127 (Little Abaco I.).

[*Myiarchus*] *lucayaiensis* SHARPE, Hand-list, iii, 1901, 147.

[*Myiarchus sagræ*.] b. Subsp. *lucayaiensis* SCLATER, Cat. Birds Brit. Mus. xiv, 1888, 262 (over list of specimens).

Myiarchus stolidus, b. var. *phœbe* (not *Tyrannus phœbe* D'Orbigny) COUES, Proc. Ac. Nat. Sci. Philad., 1872, 78, part (Bahamas).

[*Myiarchus*] *phœbe* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part (Bahamas).—CORY, List Birds West Ind., 1885, 15, part (Bahamas).

Myiarchus phœbe CORY, Auk, iii, 1886, 238, part (Bahamas).

Myiarchus stolidus, var. *phœbe* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 332, part (Bahamas).

Myiarchus sagræ (not *Muscicapa sagræ* Gundlach) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 261 (Bahamas).—CORY, Birds West Ind., 1889, 125, part (Bahamas); Cat. West Ind. Birds, 1892, 13, 108, 145, part (Abaco, Little Abaco, Berry Islands, Eleuthera, New Providence, Crooked I., Green Cay, Acklin I. and Great Inagua, Bahamas); Auk, viii, 1891, 294 (New Providence I.), 295 (Berry Islands), 297 (Inagua), 298 (Abaco), 350 (Great Bahama), 351 (Eleuthera; Inagua); ix, 1892, 49 (Inagua).—RIDGWAY, Auk, viii, 1891, 334 (Abaco), 335 (New Providence), 339 (Green Cay).—BONHOTE, Ibis, 1899, 513 (New Providence I.; habits); 1903, 291 (New Providence; Andros; Little Abaco; habits).

[*Pitangus*] *stolidus* (not *Myiobius stolidus* Gosse) GRAY, Hand-list, i, 1869, 358, no. 5438, part.

MYIARCHUS ANTILLARUM (Bryant).

PORTO RICO FLYCATCHER.

Similar to *M. sagræ sagræ*, but averaging darker and decidedly browner above, and with much less of rufous (sometimes none) on inner webs of rectrices; wing averaging decidedly longer, tail shorter, and feet larger.

Adults (*sexes alike*).—Pileum dark sooty brown (dark sepia to nearly clove brown); rest of upper parts lighter, more olive-brown; tail dusky, the rectrices paler at tip, their outer webs indistinctly edged with lighter grayish brown; outer web of lateral rectrix very pale grayish brown, sometimes almost white along edge; inner webs of rectrices (except middle and outer pairs) usually edged (more or less narrowly) with cinnamon or rufous-cinnamon; sides of head and neck sooty brown, the latter more grayish, the lores intermixed with pale gray and dusky; malar region, chin, throat, and chest pale gray

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(about no. 10), the sides of breast similar but tinged with olive-brown; rest of under parts white, usually faintly tinged with pale primrose or sulphur yellow, especially on flanks and under tail-coverts; axillars and under wing-coverts pale sulphur or primrose yellow; inner webs of remiges edged with cinnamon-buff; bill brownish black, the mandible more brownish basally; iris brown; legs and feet brownish black or blackish brown.

Adult male.—Length (skins), 169–178 (174); wing, 86.5–89 (87.5); tail, 76.5–79 (77.7); exposed culmen, 19.5–20 (19.8); tarsus, 21.5–23 (22.3); middle toe, 12.5.[a]

Adult female.—Length (skins), 159–169 (163); wing, 78–85 (82.9); tail, 67–77 (73.6); exposed culmen, 18–20 (19.1); tarsus, 21.5–22 (21.9); middle toe, 11–12.5 (12).[b]

Island of Porto Rico (including Vieques), Greater Antilles.

Tyrannus antillarum BRYANT, Proc. Bost. Soc. N. H., x, 1866, 248 (Porto Rico); Journ. für Orn., 1866, 182 (Porto Rico; crit., etc.).

Myiarchus antillarum SUNDEVALL, Œfv. Vet.-Ak. Förh., 1869, 599.—GUNDLACH, Journ. für Orn., 1874, 311; 1878, 159, 171 (descr. nest and eggs); Anal. Soc. Esp. Hist. Nat., vii, 1878, 194.—CORY, Auk, iii, 1886, 239; Birds West Ind., 1889, 125; Cat. West Ind. Birds, 1892, 13, 108, 132.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 262.—BOWDISH, Auk, xx, 1903, 11 (habits), 194 (food).

[*Myiarchus*] *antillarum* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 147.

[*Tyrannus*] *antillarum* GRAY, Hand-list, i, 1869, 364, no. 5544.

Myiarchus stolidus, c. var. *antillarum* COUES, Proc. Ac. Nat. Sci. Philad., July 2, 1872, 79.

[*Myiarchus stolidus*] var. *antillarum* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 332.

MYIARCHUS SCLATERI Lawrence.

SCLATER'S FLYCATCHER.

Much like *M. oberi oberi*, but much smaller; inner web of outermost rectrix wholly, that of the next almost wholly, deep grayish brown, the third, fourth, and fifth rectrices with less than outer half of inner web dull cinnamon-rufous; no rusty edgings to outer webs of remiges, their inner webs edged with buff instead of cinnamon-rufous; pale yellow of abdomen more restricted, the sides being distinctly and extensively ashy anteriorly, light olive posteriorly.

Adult (sex not determined).—Above plain dark olive or sooty olive, darker on pileum; tail deep grayish brown or sepia, the third (from outside), fourth, and fifth rectrices with less than outer half of inner web dull cinnamon-rufous, the inner web of outermost rectrix wholly deep grayish brown, that of the next with only a trace of cinnamon on margin near tip; wings dusky, the middle coverts distinctly mar-

[a] Three specimens. [b] Four specimens.

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gined terminally with pale grayish brown, the greater coverts more narrowly and less distinctly tipped with same, the secondaries edged with same for about terminal half, the primaries very narrowly and indistinctly edged with same; sides of head and neck plain grayish sepia, gradually fading below into the light gray (about no. 8) of chin, throat, and chest; sides of breast and anterior portion of sides pale yellowish gray, gradually fading into pale grayish yellow on flanks; rest of under parts pale primrose yellow; axillars and under wing-coverts very pale grayish yellow; inner webs of remiges edged with pale cinnamon-buff; bill black, the mandibular rami more brownish; legs and feet brownish black; length (skin), 195 (before skinning, 190); wing, 89; tail, 80; exposed culmen (tip of bill broken off); tarsus, 24.5; middle toe, 14.[a]

Island of Martinique, Lesser Antilles.

Myiarchus sclateri LAWRENCE, Proc. U. S. Nat. Mus., i, Mar. 10, 1879, 357 (Martinique, Lesser Antilles; coll. U. S. Nat. Mus.).—CORY, Auk, iii, 1886, 240; Birds West Ind., 1889, 127; Cat. West Ind. Birds, 1892, 13, 108, 133.—REICHENOW and SCHALOW, Journ. für Orn., 1879, 316 (reprint of orig. descr.).
[*Myiarchus*] *sclateri* CORY, List Birds West Ind., 1885, 15.

MYIARCHUS FEROX PANAMENSIS (Lawrence).

PANAMA FLYCATCHER.

Similar to *M. f. ferox*,[b] but paler above and with sides of head and neck and hindneck more grayish.

Adults (*sexes alike*).—Pileum grayish olive, the feathers distinctly darker centrally; hindneck, sides of neck, and sides of head gray (nearly mouse gray), usually more or less tinged with olive, especially on auricular region; back, scapulars, lesser wing-coverts, and rump rather light olive, the upper tail-coverts more grayish brown; tail deep grayish brown more or less distinctly tipped with paler, or more buffy, brown, the outer webs of rectrices edged with light olive or buffy olive; wings dusky, the middle coverts broadly tipped with light grayish olive and margined with paler, more yellowish or buffy olive, the greater coverts and secondaries edged with pale buffy or yellowish olive, these edgings broader and approaching yellowish white on inner secondaries; inner primaries and distal secondaries sometimes narrowly edged with pale tawny; chin, throat, and chest pale gray (about no. 8); rest of under parts, together with axillars and under wing-coverts, light yellow (deep primrose); inner webs of remiges edged with pale buff or yellowish buff; bill blackish brown or dusky horn color, the mandible usually paler horn color basally; iris brown; legs and feet brownish black.

[a] Description and measurements of type.

[b] See page 612.

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Adult male.—Length (skins), 172–197 (185); wing, 87–96.5 (93.3); tail, 80.5–93.5 (88); exposed culmen, 17.5–21 (19.8); tarsus, 20.5–24.5 (23.1); middle toe, 11.5–13.5 (12.7).[a]

Adult female.—Length (skins), 180–203 (189); wing, 88.5–100.5 (91.7); tail, 84–96 (87); exposed culmen, 19–22 (20.6); tarsus, 22–24.5 (23.5); middle toe, 12–14 (13).[b]

Panama (Lion Hill; Paraiso; Panama City; Sabana de Panama; Divala; David; Calovevora; San Miguel Island; Pacheca Island; Saboga Island; Pearl Islands) and Colombia (Rio Truando; Santa Marta; Bonda; Santa Elena; Bogota).

Myiarchus panamensis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862 (pub. May, 1860), 284 (Panama; coll. G. N. Lawrence).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama; crit.).—SALVIN, Proc. Zool. Soc. Lond., 1870, 199 (Calovevora, Panama; crit.).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 22 (Lion Hill, Panama); iii, 1902, 39 (Boquete, Panama, 2,500 ft.); Auk, xviii, 1901, 30 (San Miguel I., Bay of Panama).

[*Myiarchus*] *panamensis* SHARPE, Hand-list, iii, 1901, 144, part.

M[yiarchus] ferox panamensis ALLEN, Bull. Am. Mus. N. H., iv, Dec., 1892, 347, in text (crit.).

Myiarchus ferox panamensis NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 29 (monogr.).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 153 (San Miguel, Saboga, and Pacheca islands, Bay of Panama); xlvi, 1906, 219 (Sabana de Panama).

Myiarchus ferox (not *Muscicapa ferox* Gmelin) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 253, part (Calovevora, Panama, and Paraiso Station, Panama; Santa Marta, Santa Elena, and Bogota, Colombia).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 92, part (Calovevora, Lion Hill, and Paraiso, Panama; Rio Truando, Colombia).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 142 (Bonda, Santa Marta, Colombia).

[a] Twenty-four specimens.

[b] Fifteen specimens.

Locality	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Panama (mainland)	93.4	88.6	20	22.9	12.4
Eleven adult males from San Miguel Island	93.8	88.1	20	23.1	12.7
One adult male from Pacheca Island	95	90.5	21.5	25	12.5
Four adult males from Colombia (Santa Marta)	91.3	86	19.3	23	13
FEMALES.					
Five adult females from Panama (mainland)	90.8	86.6	20.1	23	13.5
Five adult females from San Miguel Island	91.3	86.9	20.8	23	12.6
One adult female from Pacheca Island	92	88.5	19	24	13.5
Three adult females from Saboga Island	94.2	89.7	21	24	13
One adult female from Colombia (Santa Marta)	85	81	20.5	22.5	12

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MYIARCHUS FEROX ACTIOSUS Ridgway.

PIGRES FLYCATCHER.

Similar to *M. f. panamensis*, but color of back, etc., darker and duller olive, head grayer, hindneck, sides of neck, and sides of head purer gray, and yellow of under parts paler; still more like *M. f. phæocephalus*, but yellow of under parts paler.

Adult male.—Length (skins), 175–182 (178); wing, 92–97 (93.7); tail, 85.5–91 (88); exposed culmen, 18.5–21.5 (20.5); tarsus, 23.5–25 (23.3); middle toe, 13–14 (13.3).[a]

Adult female.—Length (skins), 174–197 (184); wing, 89.5–95.5 (91.6); tail, 84–88 (86.1); exposed culmen, 20.5–22 (21.1); tarsus 23.5–24.5 (23.9); middle toe, 13–14 (13.5).[b]

Pacific coast of Costa Rica (Pigres; San Lucas; Punta Arenas).

Myiarchus panamensis (not of Lawrence, 1862) Lawrence, Ann. Lyc. N.-Y., ix, 1868, 115 (Costa Rica).—Frantzius, Journ. für Orn., 1869, 308 (Costa Rica).—Boucard, Proc. Zool. Soc. Lond., 1878, 64 (Punta Arenas, Costa Rica).

Myiarchus ferox (not *Muscicapa ferox* Gmelin) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 253, part (in synonomy).—Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 92, part (in synonomy).

Myiarchus ferox actiosus Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 116 (Pigres, Gulf of Nicoya, Costa Rica; coll. U. S. Nat. Mus.).

MYIARCHUS LAWRENCEII LAWRENCEII (Giraud).

LAWRENCE'S FLYCATCHER.

Adults (*sexes alike*).—Pileum deep sooty brown (dark sepia); rest of upper parts plain olive, the upper tail-coverts browner and more or less tinged or margined with rusty; tail deep grayish brown, the outer webs of rectrices edged with cinnamon-rufous (that of lateral rectrix wholly pale brown or brownish gray), their inner webs narrowly and rather indistinctly edged with pale cinnamon; wings dusky grayish brown, the middle and greater coverts passing into cinnamon-brownish on terminal margins, the remiges edged with cinnamon-rufous (the edgings broader and paler, sometimes dull whitish, on inner secondaries); auricular region sooty brown; sides of neck grayish olive; lores gray, intermixed or flecked with dusky; malar region, chin, throat, and chest light gray (about no. 8 or no. 9); rest of under parts light yellow (deep primrose or between straw and sulphur yellow); the sides tinged with olive; axillars and under wing-coverts light yellow (like abdomen, etc.); inner webs of remiges edged with pale cinnamon; maxilla blackish brown to brownish black, the mandible similar

[a] Five specimens. [b] Four specimens.

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but slightly paler, especially basally; iris brown; legs and feet brownish black.

Young.—Essentially like adults but browner above, rectrices much more broadly edged (on both webs) with cinnamon-rufous, and larger wing-coverts margined with cinnamon or russet.

Adult male.—Length (skins), 162–180 (171); wing, 79.5–89.5 (85); tail, 74–87 (79.9); exposed culmen, 16.5–19.5 (18); tarsus, 17.5–21 (19.7); middle toe, 10–11.5 (10.7).[a]

Adult female.—Length (skins), 158–178 (165); wing, 76.5–87.5 (81); tail, 70.5–83 (76.1); exposed culmen, 16.5–19 (17.2); tarsus, 17.5–20 (19.1); middle toe, 9.5–11 (10.4).[b]

Eastern and southern Mexico, in States of Nuevo Leon (San Diego; Monterey; Cerro de la Silla; Ceralvo; Hacienda de las Escobas; Rio de las Escobas; Montemorelos; Topo Chico), Tamaulipas (Victoria; Alta Mira; Tampico), Vera Cruz (Cordova; Jalapa; Orizaba; Jico; Pasa Nueva; Jaltipan; Minatitlan; Santa Lucrecia; Teócelo; Buena Vista; Misantla; Cofre de Perote), Puebla (Metlaltoyuca), Oaxaca (Talea; Santa Efigenia; Tehuantepec; Cuicatlan; Comaltepec; Tuxtepec; Dondominguillo), Tabasco (Teapa; Atoyac), Campeche (Campeche) and Chiapas (Comitan; Teopisca; San Bartolemé; Tuxtla Gutierrez; Canjób; Tumbalá; Huehuetan; Yajalon; Ocuilapa); Guatemala (Choctum; Coban; Palín; Dueñas; Tactic; Teleman; San Gerónimo; Retalhuleu; Yaxcamnal; Sources of Rio de la Pasion; Volcan de Agua; Secanquim); British Honduras (Orange Walk; Belize)?

Muscicapa lawrencii GIRAUD, Sixteen New Species Texas Birds, 1841, [9], pl. [2], fig. 1 ("Texas;" probably from Nuevo Leon).

Tyrannula lawrencei BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 329 ("Texas").

Myiarchus lawrencii BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 181 (San Diego, Nuevo Leon); ed. 1860 (Birds N. Am.), pl. 47, fig. 3; Rep. U. S. and Mex.

[a] Fifteen specimens.

[b] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eleven adult males from Nuevo Leon and Tamaulipas to Tabasco	84.7	79.2	18.2	19.7	10.9
Four adult males from Chiapas	85.6	80.1	17.4	19.5	10.4
FEMALES.					
Four adult females from Nuevo Leon	83.4	78.6	17.3	19.3	10.6
Six adult females from Vera Cruz to Tabasco	79.4	75.1	17.6	18.9	10.6
Four adult females from Chiapas	81.4	75.1	16.8	19.1	10

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Bound. Surv., ii, pt. ii, 1859, 8, pl. 9, fig. 3 (San Diego, Nuevo Leon); Cat. Birds N. Am., 1859, no. 133.—SCLATER, Proc. Zool. Soc. Lond., 1859, 384 (Talea, Oaxaca; descr. eggs), 440 (Cordova, Jalapa, and Orizaba, Vera Cruz); Cat. Am. Birds, 1862, 233 (Orizaba); Cat. Birds Brit. Mus., xiv, 1888, 256, part (Orizaba; sources of Rio de la Pasion, Coban, Dueñas, Volcan de Agua, and Yaxcamnal, Guatemala; Belize, British Honduras?).—SCLATER and SALVIN, Ibis, 1859, 121 (Dueñas, Guatemala; notes), 440 (Cordova; Orizaba; Jalapa; Nuevo Leon).—COUES, Proc. Ac. Nat. Sci. Phila., 1872, 74, part (Tehuantepec, Oaxaca; Orizaba; excl. syn. *nigricapillus* Cabanis).—SALVIN, Cat. Strickland Coll., 1882, 316 (Comaltepec, Oaxaca).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 94, part (San Diego, Ceralvo, Hacienda de las Escobas, Rio de las Escobas, Topo Chico, and Montemorelos, Nuevo Leon; Sierra Madre above Ciudad Victoria, and Tampico, Tamaulipas; Cordova, Jalapa, Misantla, Orizaba, and Cofre de Perote, Vera Cruz; Talea, Comaltepec, Santa Efigenia, and Dondominguillo, Oaxaca; Atoyac and Teapa, Tabasco; Choctum, Yaxcamnal, Coban, Tactic, Teleman, San Gerónimo, Dueñas, Volcan de Agua, and Retalhuleu, Guatemala; La Union, Salvador?; Orange Walk and Belize, British Honduras?).

[*Myiarchus*] *lawrencii* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

M[*yiarchus*] *lawrencii* COUES, Key N. Am. Birds, 2d ed., 1884, 436.

Myiarchus lawrencei LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Tehuantepec and Dondominguillo, Oaxaca).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 186, 229; Nom. N. Am. Birds, 1881, no. 314.—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 42 (monogr.).

[*Myiarchus*] *lawrencei* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 146.—SHARPE, Hand-list, iii, 1901, 146.

M[*yiarchus*] *lawrencei* COUES, Key N. Am. Birds, 5th ed., i, 1903, 521.

[*Myiarchus tristis*] var. *lawrencei* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333, part.

Myiarchus lawrencii var. *lawrencii* RIDGWAY, Am. Journ. Sci. and Arts, Dec., 1872, 455.

[*Myiarchus lawrencei*] *α. lawrencei* RIDGWAY, Proc. Biol. Soc. Wash., ii, 1884, 92.

Myiarchus lawrencii AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 455.—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 270.—RICHMOND, Proc. U. S. Nat. Mus., xviii, 1896, 630 (Alta Mira, Tamaulipas).—LANTZ, Trans. Kansas Ac. Sci. for 1896–97 (1899), 222 (Palín and Naranjo, Guatemala).

M[*yiarchus*] *lawrenceii* RIDGWAY, Man. N. Am. Birds, 1887, 335.

Blacicus lawrencii BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 182, in text.

[*Pyrocephalus*] *lawrencei* GRAY, Hand-list, i, 1869, 363, no. 5525, part.

M[*yiarchus*] *rufomarginatus* CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 73 (Mexico; coll. Heine Mus.).

Myiarchus mexicanus (not *Tyrannula mexicana* Kaup) SCLATER, Proc. Zool. Soc. Lond., 1856, 296 (Cordova, Vera Cruz).

MYIARCHUS LAWRENCEII NIGRICAPILLUS (Cabanis).

CABANIS'S FLYCATCHER.

Similar to *M. l. lawrenceii*, but averaging decidedly smaller; pileum darker (very dark sepia or clove brown to sooty black), in stronger contrast with color of back; back, etc., more olivaceous (less brownish).

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Adult male.—Length (skins), 146–169 (161); wing, 73.5–84 (80.6); tail, 71.5–77.5 (74.3); exposed culmen, 16.5–19 (17.9); tarsus, 17.5–21 (19.5); middle toe, 10–12 (10.8).[a]

Adult female.—Length (skins), 138–184 (157); wing, 73–81.5 (77.2); tail, 64.5–74 (70.4); exposed culmen, 16.5–19 (17.6); tarsus, 18–20.5 (19.1); middle toe, 10–12 (10.6).[b]

Honduras (Ceiba; Yaruca; Truxillo; San Pedro Sula; Tigre Island), Nicaragua (Sucuyá; Ometepe; Greytown; Blewfields; Rio Escondido), and northern and central Costa Rica (Guayabal; Barranca; Bebedero; Pozo Azul; San José; Naranjo de San José; Cartago; Jiménez; Angostura; Grecia; Sarchí; Pacuare; Irazú; Tucurriqui?).

Myiarchus lawrencei (not *Muscicapa lawrenceii* Giraud) CABANIS, Journ. für Orn., 1861, 249 (Costa Rica).

Myiarchus lawrencei (BOUCARD, Proc. Zool. Soc. Lond., 1878, 64 (San José, Cartago, and Naranjo, Costa Rica).

(?) *Myiarchus lawrencii* TAYLOR, Ibis, 1860, 114 (Tigre Island, Honduras).

Myiarchus lawrencii LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 182 (Greytown Nicaragua); ix, 1868, 115, 204 (Angostura, Sarchí, and Pacuare, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—COUES, Proc. Ac. Nat. Sci. Phila., 1872, 74, part (Grecia, Barranca, and Angostura, Costa Rica).—(?) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 256, part (San Pedro, Honduras).—(?) SALVIN, Ibis, 1889, 362, part (Ruatan I., Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 94, part (Blewfields, Greytown, Sucuyá, and Ometepe, Nicaragua; Angostura, Sarchí, Grecia, Barranca, Pacuare, San José, Irazú, and Tucurriqui, Costa Rica.

[*Myiarchus*] *lawrencii* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

Myiarchus lawrencii lawrencii BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, July, 1903, 148 (Ceiba and Yaruca, Honduras).

M[yiarchus] nigricapillus CABANIS, Journ. für Orn., ix, July, 1861, 250, in text (Costa Rica; coll. Berlin Mus.).

Myiarchus nigricapillus SCLATER, Cat. Am. Birds, 1862, 233 ("Bobillo,"[c] Costa Rica); Cat. Birds Brit. Mus., xiv, 1888, 257, part (San José, Tucurriqui,

[a] Eighteen specimens.

[b] Eighteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe
MALES.					
Eight adult males from Costa Rica (3) and Nicaragua (5)..	80	73.9	18.2	19.6	11.1
Ten adult males from Honduras (Yaruca and Ceiba).....	81.1	74.6	17.9	19.6	10.9
FEMALES.					
Nine adult females from Costa Rica (4) and Nicaragua (5)..	76.4	69.6	17.6	18.9	10.8
Nine adult females from Honduras (Yaruca, Ceiba, and San Pedro Sula).....	78.1	70	17.5	19.1	10.6

The Honduras specimens are not typical, having the pileum less blackish than the majority of those from Costa Rica and Nicaragua; but they are nearer to this form than to true *M. lawrenceii*.

[c] Bobillo is not the name of a place but a vernacular name for *the bird*.

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Pacuare, and Irazú, Costa Rica; Blewfields, Nicaragua).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 279 (Blewfields, Nicaragua).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 115 (San José, Barranca, and Grecia, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SALVIN, Ibis, 1872, 313 (Nicaragua).

[*Myiarchus*] *nigricapillus* SHARPE, Hand-list, iii, 1901, 146.

Myiarchus lawrencii var. *nigricapillus* RIDGWAY, Am. Journ. Sci. and Arts, Dec., 1872, 455, part.

Myiarchus lawrencei nigricapillus NUTTING and RIDGWAY, Proc. U. S. Nat. Mus. vi, Dec. 29, 1883, 384 (Sucuyá, Nicaragua); vi, 1884, 393 (Ometepe, Nicaragua).—CHERRIE, Auk, ix, 1892, 251 (San José, Costa Rica).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Rio Escondido, Nicaragua).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 44 (monogr.).

[*Myiarchus tristis*] var. *nigricapillus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333, part.

MYIARCHUS LAWRENCEII BANGSI Nelson.

BANGS' FLYCATCHER.

Similar to *M. l. nigricapillus*, but pileum deep black, in abrupt and conspicuous contrast with the decidedly greenish olive of back, etc., and inner webs of rectrices usually without any rufescent or cinnamomeous edging.

Adult male.—Length (skins), 154–168 (161); wing, 74–83.5 (79.8); tail, 67.5–79 (69.5); exposed culmen, 16.5–18.5 (17.7); tarsus, 17–20 (18.9); middle toe, 10.5–12 (11).[a]

Adult female.—Length (skins), 145–153 (150); wing, 75–78 (76.2); tail, 69–70 (69.5); exposed culmen, 16.5–18 (17); tarsus, 18–19.5 (19); middle toe, 10.5–11 (10.8).[b]

Northwestern Panama (Boquete) and eastern Costa Rica (Bonilla: Juan Viñas; Tucurriqui?)[c].

Myiarchus nigricapillus (not of Cabanis) SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (Santa Fé de Veragua, Panama; crit.); 1870, 199 (Chitra, Panama).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 257, part (Chitra, Santa Fé de

[a] Seven specimens.

[b] Three specimens.

Locality	Wing.	Tail.	Exposed culmen.	Tarsus	Middle toe.
MALES.					
One adult male from northern Panama (Boquete)	83.5	79	16.5	19.5	11
Six adult males from eastern Costa Rica	79.3	73.3	17.9	18.9	11
FEMALES.					
One adult female from northern Panama (Boquete)	78	69.5	16.5	19.5	11
Two adult females from eastern Costa Rica	75.2	69.5	17.2	18.7	10.7

[c] I have not seen specimens from Tucurriqui, but the locality is so close to Bonilla and Juan Viñas that the specimens from there should be the present form.

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Veragua, and Volcan de Chiriqui, Panama).—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 39 (Boquete, Panama, 4,000 to 6,000 ft.).

[*Myiarchus tristis*] var. *nigricapillus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333, part (Panama).

Myiarchus lawrencii (not *Muscicapa lawrencii* Giraud) SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 94, part (Volcan de Chiriqui, Chitra, and Santa Fé de Veragua, Panama; Tucurriqui, Costa Rica?).

Myiarchus lawrencei bangsi NELSON, Proc. Biol. Soc. Wash., xvii, Mar. 10, 1904, 45 (Boquete, Panama; coll. E. A. and O. Bangs).

MYIARCHUS LAWRENCEII QUERULUS Nelson.

QUERULOUS FLYCATCHER.

Similar to *M. l. lawrenceii*, but pileum brownish olive or light sepia, scarcely if at all darker than color of back, and (usually) cinnamomeous edgings of remiges paler and duller.

Adult male.—Length (skins), 165–179 (172); wing, 83–89 (85.1); tail, 77–84 (80.8); exposed culmen, 17.5–18.5 (17.9); tarsus, 18–19.5 (18.6); middle toe, 10–11 (10.4).[a]

Adult female.—Length (skins), 162–178 (169); wing, 77–86.5 (81.1); tail, 73.5–81.5 (76.7); exposed culmen, 17–18 (17.3); tarsus, 18–20 (18.8); middle toe, 9–10.5 (9.9).[b]

Southwestern Mexico, in States of Jalisco (Barranca Ibarra; La Laguna; San Sebastian), Michoacan (Los Reyes; Ahuacana; Patzcuaro), Morelos (Huitzilac), Hidalgo (El Chico), Oaxaca (Oaxaca City; Tlalpancingo; Pluma), Guerrero (Chilpancingo; Amula; Omilteme; Acahuitzotla; Tepetlapa; Dos Arroyos; Rincon), Colima (Plains of Colima), and southern Sinaloa (Escuinapa). Salvador (La Union, March 14).

Myiarchus lawrencii (not *Muscicapa lawrencii* Giraud) COUES, Proc. Ac. Nat. Sci. Phila., 1872, 74, part (Colima).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 288, part (Plains of Colima).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 43, fig. 9 (spec. no. 29,344, from Plains of Colima).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 94, part (Chilpancingo, Amula, Omilteme, Acahuitzotla, Tepetlapa, Dos Arroyos, and Rincon, Guerrero).

[*Myiarchus*] *lawrencii* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

[*Myiarchus tristis*] var. *lawrencei* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333, part.

Myiarchus lawrencei olivascens RIDGWAY, Proc. Biol. Soc. Wash., ii, 1884, 91, part.

Myiarchus lawrencii olivascens JOUY, Proc. U. S. Nat. Mus., xvi, 1893, 783 (Barranca Ibarra, Jalisco).

Myiarchus lawrencei querulus NELSON, Proc. Biol. Soc. Wash., xvii, Mar. 10, 1904, 47 (Los Reyes, Michoacan; coll. U. S. Nat. Mus.).

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[a] Ten specimens. [b] Seven specimens.

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MYIARCHUS LAWRENCEII PLATYRHYNCHUS (Ridgway).

COZUMEL FLYCATCHER.

Similar to *M. l. querulus*, but decidedly smaller, and inner webs of rectrices usually without rufescent or cinnamomeous edging; similar also to *M. l. olivascens*, but coloration of upper parts darker and decidedly olivaceous, outer webs of remiges and rectrices distinctly edged with dull cinnamon-rufous or russet, yellow of under parts deeper, and bill averaging broader.

Adult male.—Length (skins), 152–172 (165); wing, 73.5–83.5 (80.4); tail, 70.5–81 (75.9); exposed culmen, 17–19 (17.7); tarsus, 18–20.5 (19.6); middle toe, 9.5–11 (10–4).[a]

Adult female.—Length (skins), 154–159 (157); wing, 74–77 (75.2); tail, 67.5–69.5 (68.3); exposed culmen, 16–17.5 (16.7); tarsus, 17.5–19 (18.2); middle toe, 9–10.5 (9.8).[b]

Yucatan (Merida; Peto; Chichen-Itza; La Vega; Cozumel Island), Campeche (Campeche), and eastern Tabasco (Frontera; Montecristo).

Myiarchus lawrencii (not *Muscicapa lawrenceii* Giraud) LAWRENCE, Ann. Lyc.N.Y., ix, 1869, 204 (Merida, Yucatan).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Yucatan).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 256, part (Yucatan; Cozumel I.).—SALVIN, Ibis, 1889, 362, part (Cozumel I.; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 94, part (Merida, Peto, and Cozumel I., Yucatan).

[*Myiarchus*] *lawrencii* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

Myiarchus platyrhynchus RIDGWAY, Proc. Biol. Soc. Wash., iii, 1885 (separates pub. Feb. 26), 23 (p. 3 of separate) (Cozumel I., Yucatan; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., viii, 1885, 570 (Cozumel I.).

M[*yiarchus*] *platyrhynchus* RIDGWAY, Man. N. Am. Birds, 1887, 335 (Cozumel).

[*Myiarchus*] *platyrhynchus* SHARPE, Hand-list, iii, 1901, 146.

Myiarchus lawrencei platyrhynchus NELSON, Proc. Biol. Soc. Wash., xvii, Mar. 10, 1904, 45 (monogr.).

[a] Eleven specimens.

[b] Three specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Yucatan (2), Campeche (1), and Tabasco (3)	80.3	74.2	17.5	19.5	10.5
Five adult males from Cozumel Island	80.5	76.9	17.8	19.7	10.2
FEMALES.					
Two adult females from Cozumel Island	74.3	67.8	16.3	17.8	9.5
One adult female from Tabasco	77	69.5	17.5	19	10.5

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MYIARCHUS LAWRENCEII TRESMARIÆ Nelson.

TRES MARIAS FLYCATCHER.

Similar to *M. l. olivascens*, but smaller, bill larger and relatively broader, and color of upper parts averaging slightly grayer.

Adult male.—Length (skin), 159; wing, 78.5; tail, 73; exposed culmen, 18; tarsus, 20.5; middle toe, 10.[a]

Adult female.—Length (skins), 150–162 (157); wing, 72.5–77.5 (74.7); tail, 67.5–74 (71.8); exposed culmen, 16.5–18 (17.3); tarsus, 18.5–20 (19.3); middle toe, 9–10 (9–6).[b]

Tres Marias Islands, Territory of Tepic, western Mexico.

Myiarchus lawrencii (not *Muscicapa lawrenceii* Giraud) Lawrence, Mem. Bost. Soc. N. H., ii, 1874, 288, part (Tres Marias Islands).

Myiarchus lawrencei olivascens (not of Ridgway) Nelson, North Am. Fauna, no. 14, 1899, 48 (Tres Marias; crit.).

Myiarchus lawrencei tresmariæ Nelson, Proc. Biol. Soc. Wash., xvii, Mar. 10, 1904, 49 (Maria Madre Island, Tres Marias group, Territory of Tepic, western Mexico; coll. U. S. Nat. Mus.).

MYIARCHUS LAWRENCEII OLIVASCENS Ridgway.

OLIVACEOUS FLYCATCHER.

Similar to *M. l. querulus*, but decidedly smaller; olive of upper parts paler and grayer; rectrices with cinnamomeous edgings much less distinct, usually wanting on either web; edgings to remiges paler, inclining to pale cinnamon only on inner primaries and yellow of under parts paler (primrose).

Adult male.—Length (skins), 150–172 (160); wing, 75–85 (81.3); tail, 70–81 (76.2); exposed culmen, 16–18.5 (17.9); tarsus, 18–19.5 (18.6); middle toe, 9–10.5 (9.9).[c]

Adult female.—Length (skins), 146–168 (153); wing, 74.5–79 (76.1); tail, 67.5–76.5 (71.4); exposed culmen, 16–18.5 (17.1); tarsus, 16–19 (17.9); middle toe, 9–10.5 (9.5).[d]

[a] One specimen.
[b] Six specimens.
[c] Fifteen specimens.
[d] Thirteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Arizona	80.4	75.8	17.2	18.5	9.5
Six adult males from Sinaloa and Tepic	82.8	76.9	18	18.9	10.4
FEMALES.					
Nine adult females from Arizona	76.2	71.2	16.9	17.5	9.3
Four adult females from Sinaloa and Tepic	76	72	17.6	18.8	9.9

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Southern Arizona (Santa Rita, Santa Catalina, and Huachuca Mountains; Fort Huachuca; Nogales; west side of San Luis Mountains; Santa Cruz River), and southward through western and southwestern Mexico, in States of Sonora (Alamos; Yecera; Realito; Guadalupe), Chihuahua (Hacienda de San Rafael; Cajon Bonita Creek), Sinaloa (Plomosas;[a] Mazatlan;[a] Escuinapa)[b], Jalisco (Barranca Ibarra), Colima (Manzanillo, January; plains of Colima, February), Guerrero (Acapulco, January; Papayo, April 16), and Oaxaca (Santa Efigenia, December), and Territory of Tepic (San Blas; Santiago). Accidental in Colorado (Fort Lyon, 1 specimen, May 11, 1883).

[*Myiarchus*] *lawrencii* (not *Muscicapa lawrenceii* Giraud) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52, part.

Myiarchus lawrencii BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 204 (Santa Rita Mts., Arizona).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 256, part (in synonymy).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 94, part (Yecera, Realito, and Guadalupe, Sonora; Mazatlan, Sinaloa; Plains of Colima).

Myiarchus tristis, var. *lawrencei* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333, part (specimens "from Mazatlan and northward").

Myiarchus lawrencei BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 252 (Santa Rita Mts., Arizona).

Myiarchus lawrencei olivascens RIDGWAY, Proc. Biol. Soc. Wash., ii, Apr. 10, 1884, 91 (Santa Efigenia, Oaxaca; coll. U. S. Nat. Mus.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 455*a*.—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 270.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 253.—SWARTH, Pacific Coast Avifauna, no. 4, 1904, 22 (Huachuca Mts., Arizona; breeding habits).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 48 (monogr.).—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 357 (Escuinapa, etc., Sinaloa, Sept. to May; crit.).

M[yiarchus] l[awrencei] olivascens COUES, Key N. Am. Birds, 5th ed., i, 1903, 521.

Myiarchus l[awrencei] olivascens SWARTH, Condor, vii, 1905, 79 (Santa Rita Mts., Arizona).

M[yiarchus] lawrenceii olivascens RIDGWAY, Man. N. Am. Birds, 1887, 335.

[*Myiarchus lawrencei*] b. *olivascens* RIDGWAY, Proc. Biol. Soc. Wash., ii, 1884, 93.

[*Myiarchus*] *olivascens* SHARPE, Hand-list, iii, 1901, 146.

Myiarchus lawrencei olivaceus [error] BREWSTER, Auk, ii, 1885, 199 (Santa Rita Mts., Arizona; descr. young).—SCOTT, Auk, iv, 1887, 18 (Santa Catalina and Santa Rita Mts., Arizona).

Myiarchus lawrenceii olivaceus [error] LANTZ, Trans. Kansas Ac. Sci. for 1896-97 (1899), 222 (Altata, Sonora).

Myiarchus lawrenceii olivascens [typographical error] THORNE, Auk, vi, 1889, 276 (Fort Lyon, Colorado, 1 spec., May 11, 1883).

MYIARCHUS NIGRICEPS Sclater.

BLACK-CRESTED FLYCATCHER.

Similar to *M. lawrenceii bangsi*, but without trace of rufescent or cinnamomeous edgings on wings or tail; slightly smaller.

Adults (*sexes alike*).—Pileum uniform black, or sooty black; rest of upper parts plain greenish olive, the upper tail-coverts more brown-

[a] Breeding at these localities. [b] September to May.

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ish olive or grayish brown; tail deep grayish brown to dusky brown, the outer webs of rectrices paler along edges; wings dark grayish brown to dusky, the middle and greater coverts margined terminally or tipped with light olive or grayish brown, the secondaries edged with paler, the edgings broader and more whitish (sometimes yellowish white or pale yellow) on inner secondaries; auricular region and sides of neck grayish sooty; lores mixed light grayish and dusky; malar region, chin, throat, and upper part of chest very pale gray (about no. 10); rest of under parts light yellow (deep primrose to light canary yellow); axillars and under wing-coverts light yellow; inner webs of remiges edged with very pale grayish buffy; bill dusky brown to brownish black; legs and feet dusky brown, the latter more blackish.

Adult male.—Length (skin), 147; wing, 81; tail, 74; exposed culmen, 17.5; tarsus, 19.5; middle toe, 10.5.[a]

Adult female.—Length (skins), 141–148 (144); wing, 72.5–81.5 (77); tail, 72.5; exposed culmen, 17.5; tarsus, 16.5–19.5 (18); middle toe, 9.5–11 (10.3).[b]

Eastern Panama (Frijole and Lion Hill stations, Panama Railway), and Colombia (Bogota; Bucaramanga; between Bucaramanga and Ocaña; Herradura; Minca, Santa Marta, Puebla Vieja, Palomina, and San Miguel, Santa Marta), Ecuador (Esmeraldas; Pallatanga; Sarayacu; Quito; Jima; Chimbo; Paramba; Balzar Mountains; La Concepcion; Niebli; Intac; Gualea; Bugnac), northern Peru (Maraynioc; Pumamarca; Paltaypampa; Tambillo; Huambo; Tamiapampa; Cutervo; Callacate), Venezuela (Merida) British Guiana (Camacusa; Merumé Mountains; Roraima), and Cayenne (l'Ouanary).[c]

Myiarchus nigriceps SCLATER, Proc. Zool. Soc. Lond., 1860, 68 (Pallatanga, w. Ecuador; coll. P. L. Sclater), 295 (Esmeraldas, w. Ecuador); Cat. Am. Birds, 1862, 234 (Pallatanga and Esmeraldas, w. Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 258 (Pallatanga, Esmeraldas, Quito, Jima, Balzar Mts., and Sarayacu Ecuador; Bogota, Minca, and Herradura, Colombia; Panama).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 327 (Lion Hill, Panama R. R.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Lion Hill; crit.); 1868, 168 (Venezuela); 1875, 234 (Merida, Venezuela).—WYATT, Ibis, 1871, 333 (Herradura and bet. Ocaña and Bucaramanga, Colombia).—COUES, Proc. Ac. Nat. Sci. Phila., 1872, 75 (crit.; Pallatanga, Esmeraldas, and Quito, Ecuador; Panama).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 539 (Maraynioc, Paltaypampa and Pumamarca, Peru); 1879, 235 (Tambillo, n. Peru); 1880, 203 (Cutervo and Callacate, Peru); 1882, 22 (Huambo and Tamiapampa, Peru); Orn. du Pérou, ii, 1884, 324.—SALVIN and GODMAN, Ibis, 1880, 125 (Minca, Santa Marta, 2,000 ft., Colombia); Biol. Centr.-Am., Aves, ii, 1889, 96 (Lion Hill, Isthmus Panama; "Colombia, Ecuador, Peru, Venezuela, Guiana, and Amazon valley").—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1883, 559 (Chimbo, n. w. Ecuador); 1884, 297 (Bugnac, 6,000 ft., w. Ecuador).—

[a] One specimen from Colombia (Palomina, Santa Marta).

[b] Two specimens from Colombia (Palomina, Santa Marta).

[c] I have not seen specimens from Venezuela, British Guiana, nor Cayenne.

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SALVIN, Cat. Strickland Coll., 1882, 316 (crit.); Ibis, 1885, 298 (Camacusa, Merumé Mts., and Roraima, 3,500 ft., British Guiana).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia), 158 (Puebla Vieja, Santa Marta), 176 (Palomina and San Miguel, Santa Marta).—HARTERT, Novit. Zool., v, 1898, 488 (Chimbo and Paramba, n. w. Ecuador; crit.).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 13 (La Concepcion, centr. Ecuador; Niebli, w. Ecuador).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 143 (Minca, etc., Santa Marta, Colombia).—GOODFELLOW, Ibis, 1901, 707 (Intac and Gualea, w. Ecuador).—NELSON, Proc. Biol. Soc. Wash., xvii, 1904, 49 (monogr.).—MENEGAUX, Bull. Mus. d'Hist. Nat. Paris, 1904, 118 (l'Ouanary, Cayenne).—HELLMAYR, Novit. Zool., xiii, 1906, 26 (range).

[*Myiarchus*] *nigriceps* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 52.—SHARPE, Hand-list, iii, 1901, 146.

Myiarchus lawrencii, var. *nigriceps* RIDGWAY, Am. Journ. Sci. and Arts, iv, Dec., 1872, 445 (Panama to Ecuador).

[*Myiarchus tristis*] var. *nigriceps* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333.

[*Pyrocephalus*] *nigriceps* GRAY, Hand-list, i, 1869, 363, no. 5526.

Myiarchus brunneiceps LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, May 27, 1861, 327 (Lion Hill, Panama R. R.).

(?) *Myiarchus tuberculifer* (not *Tyrannus tuberculifer* D'Orbigny and Lafresnaye?) BERLEPSCH, Journ. für Orn., 1884, 304 (Bucaramanga, Colombia).

MYIARCHUS BARBIROSTRIS (Swainson).

SAD FLYCATCHER.

Similar to *M. lawrenceii lawrenceii*, but much smaller (wing 66.5–75.5), gray of throat much paler (nearly grayish white) and not extended over chest, and remiges and rectrices much less distinctly edged with rusty.

Adults (*sexes alike*).—Pileum deep sooty brown (dark sepia to nearly clove brown); rest of upper parts olive, paler on rump, the upper tail-coverts browner and usually tinged with rusty; tail dark grayish brown or dusky, the outer webs of rectrices edged with lighter (often cinnamomeous) brown, their inner webs usually rather narrowly edged with light cinnamon; wings dusky, the middle and greater coverts tipped with light brown or dull cinnamon-brown (paler in worn plumage), the secondaries edged (except basally) with light or pale cinnamon (the inner secondaries with edgings broader and whitish); auricular region similar in color to pileum; sides of neck similar in color to back, but rather paler; malar region, chin, and throat very pale gray or grayish white; rest of under parts pale (primrose) yellow, the chest tinged with pale olive; axillars and under wing-coverts primrose yellow; inner webs of remiges edged with pale cinnamon; maxilla deep to dark horn brown, mandible similar, but paler; iris brown; legs and feet black to dusky brown.

Young.—Similar to adults, but cinnamomeous edgings to remiges and rectrices rather more distinct.

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Adult male.—Length (skin), 144–156 (149); wing, 69–75.5 (73.3); tail, 65–71 (68.2); exposed culmen, 15–16.5 (16); tarsus, 18–20 (18.7); middle toe, 9.5–11 (10.2).[a]

Adult female.—Length (skins), 133–150 (143); wing, 66.5–75.5 (70.8); tail, 62–70 (66.6); exposed culmen, 15–16 (15.8); tarsus, 18–18.5 (18.4); middle toe, 10–10.5 (10.1).[b]

Island of Jamaica, Greater Antilles.

Tyrannula barbirostris SWAINSON, Philos. Mag., n. s., i, 1827, 367 ("Mexico"; see Sclater, Proc. Zool. Soc. Lond., 1871, 85).

Blacicus barbirostris SCLATER, Proc. Zool. Soc. Lond., 1871, 85; Cat. Birds Brit. Mus., xiv, 1888, 244 (Moneague, Jamaica).—SALVIN, Cat. Strickland Coll., 1882, 316 (crit.).—CORY, Auk, iii, 1886, 241; Birds West Ind., 1889, 128.—SCOTT, Auk, x, 1893, 177.

[*Blacicus*] *barbirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—CORY, List Birds West Ind., 1885, 15.

B[*lacicus*] *barbirostris* NEWTON (A. and E.), Handb. Jamaica, 1881, 108.

Myiarchus barbirostris CORY, Cat. West Ind. Birds, 1892, 14, 108, 130, 145.

[*Myiarchus*] *barbirostris* SHARPE, Hand-list, iii, 1901, 147.

Myiobius tristis GOSSE, Birds Jamaica, 1847, 167; Illustr. Birds Jam., 1849, pl. 41.—ALBRECHT, Journ. für Orn., 1862, 199.

[*Tyrannula*] *tristis* BONAPARTE, Consp. Av., i, 1850, 191.

Blacicus tristis CABANIS, Journ. für Orn., 1855, 480.—SCLATER, Cat. Am. Birds, 1862, 234.—MARCH, Proc. Ac. Nat. Sci. Phila., 1863, 290.

[*Pyrocephalus*] *tristis* GRAY, Hand-list, i, 1869, 363, no. 5536.

Myiarchus tristis COUES, Proc. Ac. Nat. Sci. Philad., July 2, 1872, 80.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333, footnote.

[*Myiarchus tristis*] var. *tristis* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 333.

Genus MYIODYNASTES Bonaparte.

Myiodynastes BONAPARTE, Bull. Soc. Linn. Normandée, ii, 1857, 35 (ex Compt. Rend., xxxviii, 1854, 657, *nomen nudum*). (Type, *Muscicapa audax* Gmelin = *M. maculata* Müller.)

Hypermitres CABANIS, Journ. für Orn., 1861, 247. (Type, *Scaphorhynchus chrysocephalus* Tschudi.)

Rather large Tyrannidæ (wing 104–120 mm.) with tarsus not longer than middle toe with claw, exposed culmen not conspicuously longer (usually about as long as, sometimes a little shorter) than tarsus, gonys less than twice as long as mandibular rami, tail at least three-fourths as long as wing, crown with a concealed yellow patch, and margined laterally with a more or less distinct superciliary stripe of whitish, pale yellowish or buffy, and with under parts broadly streaked (at least on chest) with dusky, or else light yellowish, indistinctly streaked on chest, or with broad rufous edgings on remiges and rectrices.

[a] Eight specimens. [b] Six specimens.

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Bill about as long as head or slightly shorter, stout, but variable in relative width and depth, its width at anterior end of nostrils sometimes (in *M. bairdi*) less than half the distance from nostril to tip of maxilla and equal to its depth at same point; sometimes (in *M. chrysocephalus* and *M. hemichrysus*) its width at anterior end of nostrils equal to much more than twice the distance mentioned, and conspicuously greater than its depth at same point; its lateral outlines straight (*M. bairdi*, *M. luteiventris*) or strongly convex subterminally, the tip of maxilla rather abruptly contracted; exposed culmen about as long as tarsus (sometimes decidedly less, more rarely decidedly more), distinctly ridged, straight or very nearly so for most of its length, strongly (sometimes abruptly) decurved terminally, the tip of maxilla more or less strongly uncinate; gonys decidedly longer than mandibular rami (but less than twice as long), straight or very slightly convex; mandibular tomium straight or sometimes slightly convex anteriorly, distinctly notched subterminally. Nostril more or less exposed, nearly circular (*M. bairdi*, *M. luteiventris*), obliquely oval (*M. solitarius*, *M. maculatus*) or longitudinally oval (*M. chrysocephalus*, *M. hemichrysus*). Rictal bristles strong, the feathers of chin, malar antiæ, and frontal antiæ with distinct bristly tips, the last arching over nostrils. Wing rather long, pointed, the longest primaries exceeding distal secondaries by much more than length of tarsus; seventh, eighth, seventh and eighth, or eighth and ninth primaries longest, the tenth (outermost) slightly shorter than fourth to nearly as long as sixth. Tail three-fourths to five-sixths as long as wing (longer than distance from bend of wing to end of distal secondaries), even, slightly rounded, slightly double-rounded, or slightly emarginate, the rectrices of even width and with broadly rounded tip. Tarsus equal to or barely longer than middle toe with claw (decidedly longer in *M. bairdi*), sometimes very slightly shorter, its scutellation typically exaspidean, without separate series of scutella on upper posterior portion of outer side of tarsus, the acrotarsial divisions distinct; basal phalanx of middle toe united for greater part of its length to outer toe, for half its length, or less, to inner toe; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe more or less distinctly shorter; hallux about as long as inner toe, not conspicuously stouter, its claw shorter than the digit; all the claws rather large, moderately curved, moderately sharp and compressed.

Coloration.—(1) Conspicuously streaked, above and below, the upper tail-coverts and tail mostly rufous or broadly edged with rufous. (2) Plain brown above, the upper tail-coverts and tail and outer webs of remiges mostly rufous; under parts plain straw yellow, passing into grayish on throat. (3) Plain olive above, the upper tail-coverts, rectrices, and remiges merely margined with rufous; under parts sulphur yellow, passing into brownish or buffy white on

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throat, the chest obsoletely streaked with olive. (All the species with a concealed patch of yellow on crown, except in young, a whitish or pale dull buffy superciliary stripe and, except in *M. bairdi*, a similar malar stripe, and a dusky loral stripe extending to and including the latero-frontal antiæ.)

Nidification.—Nest (of *M. luteiventris*) in holes of trees, composed of small twigs, dry leaf-stems, etc. Eggs buffy, blotched and spotted, chiefly round larger end, with deep purplish brown, lavender, etc.

Range.—Southwestern border of United States (Arizona) to Peru, Paraguay, southeastern Brazil, etc. (About six species and subspecies.)

Notwithstanding the great difference in form of the bill between *M. chrysocephalus* and *M. hemichrysus* on the one hand and *M. bairdi* and *M. luteiventris* on the other, the difference is so nearly bridged over by the intermediate structure of the bill in *M. solitarius* and *M. maculatus* that, in the absence of other characters, I am not able to recognize a genus *Hypermitres* Cabanis. The only alternative, in fact, would be to have four genera instead of one.

KEY TO THE SPECIES AND SUBSPECIES OF MYIODYNASTES.

a. Under parts conspicuously streaked.

b. Tail dusky, the rectrices edged with cinnamon-rufous. (Paraguay and Argentina to northern Brazil and Cayenne.).....**Myiodynastes solitarius** (extralimital) [a]

bb. Tail cinnamon-rufous, the rectrices with a median stripe (broad only on middle pair) of dusky.

c. Superciliary stripe pale yellowish; chin and sides of throat white, narrowly streaked with dusky; under parts of body white, more or less suffused with pale yellow. (*Myiodynastes maculatus.*)

d. Darker, with streaks on chest, etc., broader. (Venezuela, Trinidad, and Tobago to Amazon Valley.)

Myiodynastes maculatus maculatus (extralimital)[b]

dd. Paler, with streaks on chest, etc., narrower.

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[a] *Tyrannus solitarius* Vieillot, Nouv. Dict. d'Hist. Nat., xxv, 1817, 88 (Paraguay; based on *Suiriri chorreado todo* Azara, Apunt. Parag., ii, 145, no. 196).—*Myiodynastes solitarius* Sclater, Proc. Zool. Soc. Lond., 1859, 43; Cat. Birds Brit. Mus., xiv, 1888, 185.—[*Pitangus*] *solitarius* Gray, Hand-list, i, 1869, 357, no. 5432.—*Tyrannus audax* (not *Muscicapa audax* Gmelin) Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 889; D'Orbigny, Voy. Amér. Merid., Ois., 1839, 149.—*Scaphorhynchus audax* Tschudi, Fauna Peruana, Aves, 1845, 149; Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 459.

[b] *Muscicapa maculata* Müller, Syst. Nat. Suppl., 1776, 169 (Cayenne; based on *Gobe-mouche tachetée de Cayenne* Daubenton, Pl. Enl., pl. 453, fig. 2).—*Myiodynastes maculatus* Cassin, Proc. Ac. Nat. Sci. Phila., 1864, 255.—[*Pitangus*] *maculatus* Gray, Hand-list, i, 1869, 357, no. 5433.—[*Muscicapa*] *audax* Gmelin, Syst. Nat., i, 1788, 934 (Cayenne; based on *Gobe-mouche tachetée de Cayenne* Daubenton, Pl. Enl., pl. 453, fig. 2.)—*Tyrannus audax* Vieillot, Enc. Méth., 1823, 846.—*Scaphorhynchus audax* Cabanis, in Schomburgk's Reise Brit. Guiana, iii, 1848, 699.—*Megarhynchus audax* Heine, Journ. für Orn., 1859, 342.—*Myiodynastes audax* Sclater, Proc. Zool. Soc. Lond., 1859, 45; Cat. Birds Brit. Mus., xiv, 1888, 185.—*Megarynchus regius* Thunberg, Dissert. p. Schaerst., 1824, no. 4 (see Heine, Jour. für Orn., 1859, 341).

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e. Pileum more or less buffy or cinnamomeous, in contrast with color of back, the latter more strongly suffused with buff; remiges more broadly edged with cinnamomeous. (Costa Rica to Ecuador.)
Myiodynastes maculatus nobilis (p. 659)

ee. Pileum without buff or cinnamon, concolor with the back, the latter more olivaceous; remiges more narrowly edged with pale brownish or cinnamomeous. (Southern Mexico.) **Myiodynastes maculatus insolens** (p. 661)

cc. Superciliary stripe white; chin and sides of throat grayish, broadly streaked with dusky; under parts of body light yellow. (Arizona and Panama.)
Myiodynastes luteiventris (p. 656)

aa. Under parts not streaked (except, sometimes, obsoletely on chest or sides of breast).

b. Rump and upper tail-coverts cinnamon-rufous; rectrices and remiges extensively cinnamon-rufous; sides of pileum and whole hindneck light brown. (Western Ecuador and western Peru.) ..... **Myiodynastes bairdi** (extralimital)[a]

bb. Rump and upper tail-coverts greenish olive (the latter margined terminally with buffy or cinnamomeous); remiges and rectrices with little, if any, cinnamon-rufous; sides of pileum, etc., grayish dusky.

c. Throat dull pale buffy, passing into white on chin; chest buffy yellowish streaked with pale grayish; sides of breast more distinctly streaked; rest of under parts paler yellow. (Colombia to Venezuela and Peru.)
Myiodynastes chrysocephalus (extralimital)[b]

cc. Throat canary yellow, passing into white on chin; chest canary or lemon yellow, without streaks (except laterally); sides of breast less distinctly streaked, rest of under parts deeper yellow. (Costa Rica and Panama.)
Myiodynastes hemichrysus (p. 662)

MYIODYNASTES LUTEIVENTRIS Sclater.

SULPHUR-BELLIED FLYCATCHER.

Adults (*sexes alike*).—Pileum light brownish gray or olive, streaked with blackish, the ground color passing into pale hoary gray or grayish white on forehead and superciliary region, where the dusky streaks are smaller or narrower, sometimes nearly obsolete; crown with a large concealed patch of bright yellow (canary to cadmium); back, scapulars, and upper rump light olive, usually more or less tinged with buffy, the feathers dusky centrally, forming broad streaks or longitudinal spots; lower rump and upper tail-coverts cinnamon-rufous, streaked mesially with dusky; tail cinnamon-rufous, the retrices with a narrow shaft-streak of dusky (expanded, more or less, subterminally), the middle pair with the dusky forming a broad stripe; wings dusky, the

[a] *Saurophagus bairdi* Gambel, Journ. Ac. Nat. Sci. Phila., ser. 2, i, 1847, 40 ("California;" type doubtless from Guayaquil, Ecuador).—*Myiodynastes bairdi* Salvin, Ibis, 1874, 324; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 186.—*Tyrannus atrifrons* Sclater, Proc. Zool. Soc. Lond., 1857, 274 (Guayaquil, w. Ecuador; coll. T. Eyton).—*Myiodynastes atrifrons* Sclater, Proc. Zool. Soc. Lond., 1859, 43.—[*Pitangus*] *atrifrons* Gray, Hand-list, i, 1869, 357, no. 5436.

[b] *Sc*[*aphorhynchus*] *chrysocephalus* Tschudi, in Weigmann's Achiv. für Naturg., 1844, i, 272 (Peru); Fauna Peruana, Aves, 1849, 150, pl. 8, fig. 1.—*Pitangus chrysocephalus* Sclater, Proc. Zool. Soc. Lond., 1855, 150.—*Myiodynastes chrysocephalus* Sclater, Proc. Zool. Soc. Lond., 1859, 43, 143; Cat. Birds Brit. Mus., xiv, 1888, 187.—*M*[*egarhynchus*] *chrysocephalus* Heine, Journ. für Orn., 1859, 345.

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outer webs of middle and greater coverts and inner secondaries broadly edged with yellowish white or pale (primrose) yellow, the inner webs of middle coverts edged (more or less broadly) with pale grayish olive or buffy grayish, the primary coverts and primaries narrowly edged with pale olive or buffy grayish; loral and auricular regions plain dusky; malar and suborbital regions whitish (sometimes faintly tinged with yellow), usually narrowly streaked with dusky; chin and sides of throat grayish, or grayish olive, broadly streaked with dusky; rest of throat white, usually more or less distinctly streaked with dusky; rest of under parts, including axillars and under wing-coverts, primrose or sulphur yellow, the chest broadly streaked with black or dusky, the sides and flanks more narrowly streaked with the same, the axillars with narrow shaft-streaks of dusky; bill dusky, the basal portion of mandible pale horn color (in dried skins); iris brown; legs and feet dusky (in dried skins).

Young.—Similar to adults, but upper parts more strongly tinged or suffused with brownish buffy, middle and greater wing-coverts and distal secondaries edged or margined with cinnamon-buff, and yellow crown-patch more restricted.

Adult male.—Length (skins), 177–215(197); wing, 105.5–121.5 (115.9 tail, 77.5–88.5 (83.3); exposed culmen, 20–23 (21.9); tarsus, 17.5–20 18.8); middle toe, 14–15.5 (14.4).[a]

Adult female.—Length (skins), 180–206 (193); wing, 107.5–117 (112.1); tail, 77–82 (79.8); exposed culmen, 19.5–23.5 (21.7); tarsus, 17.5–20 (19.1); middle toe, 13–16 (14.6).[b]

[a] Twenty-eight specimens.

[b] Twenty-two specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Arizona and Chihuahua	117.6	83.8	22.3	19	14.7
Six adult males from southwestern Mexico	115.2	82.4	22.9	18.7	14.2
Three adult males from southeastern Mexico	115	82.7	22.2	18.5	14.2
Three adult males from Chiapas (2) and Guatemala (1)	116.3	82	21.2	18.8	15
Five adult males from Costa Rica	115.6	82.9	20.8	18.9	14
One adult male from Panama	105.5	79.5	20	18	14.5
FEMALES.					
Eight adult females from Chihuahua	112.3	79.6	21.8	18.9	14.6
Six adult females from southwestern Mexico	112	79.8	22.3	19.1	14.4
Two adult females from Chiapas	114.7	79.7	21.2	20	15
One adult female from southern Honduras (Segovia River)	108.5	78	.....	19	15.5
One adult female from Nicaragua	110	80	23	19	15.5
Four adult females from Costa Rica	112	80.4	20.4	18.9	14.2

As a rule specimens from Guatemala and southward have the chest and throat more heavily streaked and the bill smaller than those from Mexico, examples from Chiapas being, on the whole, more like Central American ones; but the difference seems too inconstant to warrant subspecific separation.

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Southern Arizona (Huachuca, Chiricahua, and Santa Rita mountains, etc.) and southward to Panama. [*Mexico:* Chihuahua (Bravo; Hacienda San Rafael; El Carmen; Cajon Bonito Creek); Sinaloa (Plomosas; Mazatlan; Presidio near Mazatlan); Nuevo Leon (Rio Comacho); Tamaulipas (Victoria); Vera Cruz (Cordova; Jalapa; Mirador; Orizaba; Jico); Mexico (near City of Mexico); Jalisco (Barranca Ibarra; Atemejac); Territory of Tepic (Acaponeta); Colima (Sierra Madre); Guerrero (Dos Arroyos); Oaxaca (Juquila; Tehuantepec; Tapana); Tabasco (Teapa); Chiapas (Canjób; Tonalá; Huehuetan). *Guatemala:* Savana de Santo Toribio; Escuintla; Peten; Vera Paz. *British Honduras:* Belize. *Honduras:* Segovia River. *Nicaragua:* Chontales; Rio Escondido. *Costa Rica:* Volcan de Irazú; Volcan de Miravalles; Santa Rosa; Turrialba; Birris; Orosí; Cartago; Naranjo de Cartago; Barranca; San José; Bonilla; Coliblanco. *Panama:* Panama.] (Said also to occur in Peru and Ecuador, but specimens from those countries are probably different and should be carefully compared.)

Tyrannus audax? (not *Muscicapa audax* Gmelin) SCLATER, Proc. Zool. Soc. Lond., 1856, 297 (Cordova, Vera Cruz; crit.).

Myiodynastes luteiventer BONAPARTE, Compt. Rend., xxviii, 1854, 657 = nomen nudum (Nicaragua); Not. Orn. Coll. Delattre, 1854, 87 (nomen nudum).—CABANIS, Journ. für Orn., 1861, 250 (Costa Rica; descr. young).

M[yiodynastes] luteiventer CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 75 (Jalapa, Vera Cruz).

[*Myiodynastes*] *luteiventer* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 146 (Jalapa).—SHARPE, Hand-list, iii, 1901, 129.

Myiodynastes luteiventris SCLATER, Proc. Zool. Soc. Lond., 1859 (pub. in May), 42 (Guatemala?; coll. P. L. Sclater), 56 (Peten, Guatemala), 366 (Jalapa, Cordova, and Orizaba, Vera Cruz), 383 (Juquila, Oaxaca); 1864, 176 (near City of Mexico); Ibis, 1859, 438 (Cordova, Jalapa, and Orizaba, Vera Cruz; Oaxaca); Cat. Am. Birds, 1862, 223 (Orizaba); Cat. Birds Brit. Mus., xiv, 1888, 183 (Orizaba; Presidio, near Mazatlan; n. Yucatan; Belize, British Honduras; Vera Paz, Savana de Santo Toribio, and Escuintla, Guatemala; Chontales, Nicaragua; Irazú, Barranca, and Santa Rosa, Costa Rica).—SCLATER and SALVIN, Ibis, 1859, 120 (Guatemala); Proc. Zool. Soc. Lond., 1870, 837 (coast Honduras).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Peten, Guatemala).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 114 (Barranca, Turrialba, and Birris, Costa Rica); Mem. Bost. Soc. N. H., ii, 1874, 287 (Mazatlan; mountains of Colima; habits); Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Tapana, Oaxaca).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—SALVIN, Ibis, 1872, 318 (Chontales, Nicaragua).—(?) TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 537 (Monterico, n. Peru); 1882, 21 Yurimaguas, Peru); Orn. du Pérou, ii, 1884, 290.—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 90 (mountains of s. Arizona).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 310.—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 346, pl. 14 (Chiricahua Mts. s. Arizona).—COUES, Check List, 2d ed., 1882, no. 365.—BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (Orosi, Costa Rica); 1883, 448 (Yucatan).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 451.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 48 (Rio Comacho, Nuevo Leon; Sierra Madre above Ciudad Victoria, Tamaulipas, and localities s. to Panama; e. Ecuador;

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Peru).—Richmond, Proc. U. S. Nat. Mus., xiv, 1893, 506 (Rio Escondido, Nicaragua).—Bendire, Life Hist. N. Am. Birds, ii, 1895, 256, pl. 2, fig. 7 (egg).—Underwood, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—Chapman, Bull. Am. Mus. N. H., x, 1898, 31 (Jalapa, Vera Cruz).—(?) Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1902, 59 (Monterico, n. Peru).—Bailey (Florence M.), Handb. Birds W. U. S., 1902, 250.—Swarth, Pacific Coast Avifauna, no. 4, 1904, 21 (Huachuca Mts., Arizona, breeding; habits).

[*Myiodynastes*] *luteiventris* Sclater and Salvin, Nom. Av. Neotr., 1873, 50.

M[yiodynastes] *luteiventris* Coues, Key N. Am. Birds, 2d ed., 1884, 431; 5th ed., i, 1903, 517.—Ridgway, Man. N. Am. Birds, 1887, 332.

Myiodinastes luteiventris Ridgway, Proc. U. S. Nat. Mus., iii, 1880, 186.

[*Pitangus*] *luteiventris* Gray, Hand-list, i, 1869, 357, no. 5431.

Pitangus luteiventris Nehrkorn, Journ. für Orn., 1881, 67 (Yucatan; descr. eggs).

MYIODYNASTES MACULATUS NOBILIS (Sclater).

NOBLE FLYCATCHER.

Similar to *M. m. maculatus*,[a] but upper parts paler and under parts less heavily streaked; similar to *M. luteiventris* in general coloration of upper parts, but superciliary stripe yellowish and chin and sides of throat whitish, the latter streaked with dusky.

Adults (*sexes alike*).—Pileum and hindneck light brown, cinnamon-brown, or buffy brown, more or less strongly (usually conspicuously) suffused with cinnamon or cinnamon-buff, streaked with black or dusky; crown with a large concealed patch of bright yellow (lemon to cadmium), this sometimes tinged with orange-rufous; a superciliary stripe of pale buffy yellowish or dull yellowish white, narrowly streaked with dusky; back, scapulars, and upper rump, light grayish brown or olive, usually more or less strongly suffused with buff or pale buffy brown, the feathers with dusky shaft-streaks; lower rump and upper tail-coverts cinnamon-rufous with narrow mesial streaks of black or dusky; tail cinnamon-rufous, the rectrices dusky along the median line, this broadest on middle pair, on the other gradually expanding terminally; wings dusky, the lesser and middle coverts broadly margined with light cinnamon-rufous and broadly edged with buff or cinnamon-buff (more cinnamomeous on outermost coverts), the primaries and distal secondaries edged with cinnamon, the inner secondaries ("tertials") broadly edged with pale yellowish buff or buffy white; loral region uniform dull black or dusky; auricular region dusky, tinged or intermixed with brown; a broad suborbital space or stripe of pale buffy yellowish or dull buffy whitish; malar region whitish or pale buffy anteriorly, brown posteriorly, streaked with dusky; under parts dull white, more or less suffused with primrose or sulphur yellow, especially on sides and under tail-coverts, the throat narrowly streaked with dusky, the chest, sides, flanks, and under tail-coverts more broadly streaked, the streaks broadest on

[a] See the key on page 655.

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chest and anterior portion of sides; maxilla deep or dark horn brown, darker terminally; mandible dull brownish white (in dried skins), dusky terminally, especially along tomia; iris brown; legs and feet dusky (in dried skins).

Young.—Similar to adults, but without yellow on crown.

Adult male.—Length (skins), 188–220 (201); wing, 103–112.5 (108.7); tail, 82–92 (85.7); exposed culmen, 22.5–26.5 (24.3); tarsus, 18.5–21 (20.1); middle toe, 13–15.5 (14.3).[a]

Adult female.—Length (skins), 191–216 (202); wing, 102–109.5 (105.8); tail, 81–88.5 (84.1); exposed culmen, 22.5–27 (24.3); tarsus, 18.5–21 (20); middle toe, 13.5–15.5 (14.3).[b]

Costa Rica (Barranca; La Palma de Nicoya; Cervantes; Turrialba; Alajuela; San Mateo; San José; San Lucas; Pigres; Bebedero) and Panama (Paraiso; Lion Hill; Frijole Station; Panama; Natá-Coclé; Chepo; Chitra; Bugaba; David; Divala; Boquete; Santa Fé de Veragua; San Miguel, Saboga, and Pacheca islands), and southward through Colombia (Santa Marta; Minca; Bonda; Palomina; Cacagualito; Rio Cauquito; Valle Dupar; Manuare; Frontino; Remedios; Bucaramanga; Santa Elena) to Ecuador (Guayaquil; Esmeraldas; Balzar Mountains; Santa Rita; Yaguachi; Carondelet; Paramba; San Javier; Sarayacu).

Myiodynastes nobilis SCLATER, Proc. Zool. Soc. Lond., 1859, 42, 43 (Santa Marta, Colombia; coll. P. L. Sclater); 1860, 295 (Esmeraldas, w. Ecuador); Cat. Am. Birds, 1862, 223 (Santa Marta; Esmeraldas, Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 183 (Bebedero, w. Costa Rica; Santa Fé, Chitra, and Calobre, Veragua; Chepo and Panama, Isthmus Panama; Minca, Valle Dupar, Manuare, Santa Marta, Frontino, and Remedios, Colombia; Esmeraldas, Balzar Mts., Santa Rita, and Sarayacu, Ecuador).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295 (Lion Hill, Panama); viii, 1865, 178 (David, Panama); ix, 1868, 114 (Barranca and San Mateo, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama; crit.).—SALVIN, Proc. Zool. Soc. Lond., 1867, 148 (David and Santa Fé de Veragua, Panama); 1870, 198 (Chitra, Calobre, and Bugaba, Panama).—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—

[a] Twenty-five specimens.

[b] Sixteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Colombia	108.6	85.2	24.2	19.7	14.1
Ten adult males from Panama (mainland)	108.2	86.3	24.3	19.7	14.2
Two adult males from Pacheca and Saboga islands	109.8	86	24	20	14.5
Three adult males from Costa Rica	108.3	85.3	24.8	19.7	14.7
FEMALES.					
Two adult females from Colombia	107.5	83	23.3	19.5	14.8
Ten adult females from Panama (mainland)	105.3	85	24.5	19.8	14.1
Four adult females from Costa Rica	106	82.5	24.4	20.6	14.4

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WYATT, Ibis, 1871, 333 (Bucaramanga, Colombia).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 394 (La Palma, w. Costa Rica).

[*Pitangus*] *nobilis* GRAY, Hand-list, i, 1869, 357, no. 5434.

M[*yiodynastes*] *audax nobilis* RIDGWAY, Man. N. Am. Birds, 1887, 332 Venezuela, Colombia, Ecuador, and north to Costa Rica).

Myiodynastes audax (not *Muscicapa audax* Gmelin) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 514 (Santa Elena and Frontino, Colombia, descr. eggs).—SALVIN and GODMAN, Ibis, 1879, 201 (Manuare, Province Santa Marta, Colombia, alt. 2,700 ft.); Biol. Centr.-Am., Aves, ii, 1889, 49, part (Colombia; Venezuela; Guiana?; Ecuador; Lion Hill, Paraiso Station, Chepo, David, Chitra, Calobre, Bugaba, and Santa Fé de Veragua, Panama; Barranca, San Mateo, Cervantes, Turrialba, and Bebedero, Costa Rica).—(?) SALVIN, Ibis, 1885, 296 (British Guiana).—(?) BERLEPSCH, Journ. für Orn., 1884, 303 (Bucaramanga, Colombia; crit.).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 91 (Yaguachi, Ecuador).—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).

[*Myiodynastes*] *audax* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50, part.—SHARPE, Hand-list, iii, 1901, 129, part.

Myiodynastes audax nobilis BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia), 176 (Palomina, Santa Marta); Proc. New Engl. Zool. Club, ii, 1900, 22 (Lion Hill, Panama); iii, 1902, 37 (Boquete, Panama, 3,500 to 4,800 ft.); Auk, xviii, 1901, 363 (Divala, Panama).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 145 (Bonda, etc., Santa Marta); xxi, 1905, 283 (Bonda; descr. nest and eggs).—HARTERT, Novit. Zool., ix, 1902, 607 (Carondelet, Paramba, and and San Javier, n. w. Ecuador).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 152 (San Miguel, Saboga, and Pacheca islands, Bay of Panama).

MYIODYNASTES MACULATUS INSOLENS (Ridgway).

INSOLENT FLYCATCHER.

Similar to *M. m. nobilis*, but general color of pileum olive (not cinnamomeous), concolor with back, etc.; pale wing-edgings much narrower, especially on primaries and distal secondaries; under tail-coverts usually much more narrowly streaked, sometimes almost immaculate; wing averaging decidedly longer, tail and bill averaging shorter.

Adult male.—Length (skins), 191–211 (204); wing, 113.5–118.5 (115.4); tail, 81–86.5 (84.3); exposed culmen, 21.5–24.5 (23.3); tarsus, 18.5–21 (20); middle toe, 14–15 (14.6).[a]

Adult female.—Length (skins), 194–208 (203); wing, 107.5–111 (108.8); tail, 77–83.5 (80.5); exposed culmen, 21.5–24 (22.6); tarsus, 19–21 (19.8); middle toe, 14–15 (14.4).[b]

Southeastern Mexico, in States of Tamaulipas (Sierra Madre above Victoria), Vera Cruz (Mirador; Jalapa; Buena Vista), San Luis Potosi (Jilitla), Oaxaca (Santo Domingo), Tabasco (Teapa), Campeche (Campeche), and Yucatan (Buctzotz; Tizimim; Temax).

M[*yiodynastes*] *audax insolens* RIDGWAY, Man. N. Am. Birds, 1887, 332 (Mirador, Vera Cruz, Mexico; coll. U. S. Nat. Mus.).

Myiodynastes audax insolens RIDGWAY, Man. N. Am. Birds, 1887, 592; 2d ed., 1896, 613.

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[a] Five specimens. [b] Four specimens.

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Myiodynastes audax (not *Muscicapa audax* Gmelin) SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 49, part (Sierra Madre, above Ciudad Victoria, Tamaulipas; Jalapa and Mirador, Vera Cruz; Buctzotz, Yucatan).

[*Myiodynastes*] *audax* SHARPE, Hand-list, iii, 1901, 129, part.

MYIODYNASTES HEMICHRYSUS (Cabanis).

GOLDEN-BELLIED FLYCATCHER.

Adults (*sexes alike*).—Pileum and hindneck dusky grayish olive or dark sooty gray, becoming paler and grayer on forehead (where sometimes intermixed with dull whitish), the feathers extensively white or pale yellow basally; crown with a large concealed patch of bright yellow (lemon to nearly cadmium); back, scapulars, rump, and lesser wing-coverts plain, rather dull, olive-green; upper tail-coverts olive or greenish olive, indistinctly margined terminally with pale buffy olive or cinnamon; tail deep grayish brown, the inner webs of rectrices rather broadly edged with pale cinnamon or cinnamon-buff, the outer webs sometimes indistinctly edged with the same; wings dusky grayish brown, the inner primaries and outer secondaries narrowly edged with cinnamon, the inner secondaries more broadly edged with dull whitish, the greater coverts narrowly edged with cinnamon or cinnamon-buff, the middle coverts sometimes terminally margined with the same; a broad white superciliary stripe; loral and auricular regions dull black or dusky; suborbital and subauricular regions white; a dark grayish olive malar stripe; chin white; rest of under parts, including axillars and under wing-coverts, bright canary or lemon yellow, the sides of breast broadly but very indistinctly streaked with pale olive; bill black or brownish black, the basal portion of mandible brownish; iris brown; legs and feet dusky (in dried skins).

Young.—Similar to adults, but without any yellow on crown, back, etc., rather browner olive-green, both webs of rectrices edged with cinnamon-rufous, remiges and greater wing-coverts broadly edged with cinnamon-rufous, and yellow of under parts paler.

Adult male.—Length (skin), 191; wing, 105.5; tail, 85.5; exposed culmen, 23; tarsus, 18.5; middle toe, 14.[a]

Adult female.—Length (skins), 183–206 (195); wing, 104–104.5 (104.2); tail, 83.5–85 (84.2); exposed culmen, 21; tarsus, 19; middle toe, 13–13.5 (13.2).[b]

Costa Rica (Barranca; Escasú; El Azajar) and western Panama (Chitra; Calobre; Calovevora).

Hypermitres chrysocephalus (not *Scaphorhynchus chrysocephalus* Tschudi) CABANIS, Journ. für Orn., 1861, 246 (Costa Rica).

Hypermitres hemichrysus CABANIS, Journ. für Orn., 1861, 247, in text (Costa Rica; coll. Berlin Mus.?).

[a] One specimen, from Panama (Calobre). [b] Two specimens, from Costa Rica.

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Myiodynastes hemichrysus LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 114 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 188 (Calovevora and Calobre, Panama.)—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 50, pl. 38, fig. 1 (Barranca, Costa Rica; Chitra, Calovevora, and Calobre, Panama).

[*Myiodynastes*] *hemichrysus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50.—SHARPE, Hand-list, iii, 1901, 129.

Myiodynastes superciliaris LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, May, 1867, 470 (Barranca, Costa Rica; coll. U. S. Nat. Mus.).—SALVIN, Proc. Zool. Soc. Lond., 1870, 198 (Chitra, Calovevora, and Calobre, Panama).

[*Pitangus*] *superciliosus* [error for *superciliaris*] GRAY, Hand-list, i, 1869, 357, no. 5437.

Genus MEGARYNCHUS Thunberg.

Platyrhynchus (not *Platyrinchus* Desmarest, 1805) TEMMINCK, Tabl. Méth., 1822, 23. (Type, *Lanius pitangva* Linnæus.)

Megarynchus THUNBERG, Dissert. de genre Megaryncho, 1824, 2. (See Heine, Journ. für Orn., 1859, 337.) (Type, by elimination, *Lanius pitangva* Linnæus or *Megarynchus brunneus* Thunberg.)[a]

Scaphorhynchus MAXIMILIAN, Beitr. Naturg. Bras., iii, 1831, 982. (Type, *S. sulphuratus* Maximilian, = *Lanius pitangva* Linnæus.)

Megastoma SWAINSON, Classif. Birds, ii, 1837, 225. (Type, *M. flaviceps*, etc., = *Lanius pitangva* Linnæus.)

Large Tyrannidæ (wing about 110–125 mm.), with exposed culmen much longer than tarsus and curved throughout, gonys twice as long as mandibular rami, tail less than three-fourths as long as wing, crown dusky olive with a concealed patch of yellow or rufous and surrounded by a white ring, broad dusky band on side of head, upper parts plain olive and under parts bright yellow, becoming white on throat.

Bill large, broad, and slightly decurved, about as long as head, its width at anterior end of nostrils equal to more than half the distance from nostril to tip of maxilla and much greater than its depth at same point, the lateral outlines more or less convex anterior to middle portion; exposed culmen much longer than middle toe with claw, very distinctly ridged, more or less strongly convex throughout, more strongly decurved terminally, the tip of maxilla distinctly uncinate; gonys more than twice as long as mandibular rami, straight or very faintly convex, ascending terminally, rather prominent basally, faintly ridged, at least terminally; maxillary tomium more or less obviously concave, distinctly notched subterminally. Nostril only partly exposed, longitudinally oval, overhung by rather broad membrane. Rictal bristles distinct, but relatively rather small; feathers of chin with distinct recurved bristly points, those of antrorse laterofrontal feathers with distinct decurved (arched) bristly points, those of malar antiæ with straight antrorse or semierect setæ. Wing rather long and pointed, the longest primaries exceeding distal secondaries

[a] The latter I am not able to identify.

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by much more than length of tarsus; seventh, eighth, and ninth primaries longest and about equal, the tenth (outermost) slightly shorter than fifth. Tail less than three-fourths as long as wing, slightly emarginate, the rectrices firm, of uniform width, with broadly rounded tip. Tarsus more than one-sixth as long as wing, its scutellation typically exaspidean, without separate series of scutella on upper posterior portion of outer side of tarsus; middle toe, with claw, much longer than tarsus, its basal phalanx united to outer toe for greater part of its length, to inner toe for less than half; outer toe, without claw, reaching to about or a little beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux a little shorter than inner toe, not conspicuously stouter, its claw shorter than the digit; all the claws rather strongly curved, sharp.

Coloration.—Above plain olive, the crown dusky, surrounded by a conspicuous ring of white and (in adults) with a concealed yellow or rufous patch; a broad band of black on side of head; under parts clear gamboge or lemon yellow, the throat white.

Nidification.—Nest and eggs similar to those of *Pitangus*.

Range.—Southern Mexico to Peru, Brazil, and Venezuela. (Monotypic.[a])

KEY TO THE SUBSPECIES OF MEGARYNCHUS PITANGUA.[b]

a. Pileum blackish or dark sooty; back, etc., decidedly greenish olive, sometimes almost olive-green.

b. Smaller (wing averaging 114.6 in male, 111.9 in female); color of back, etc., duller olive. (Colombia to Cayenne, southern Brazil, Argentina, etc.)

Megarynchus pitangua pitangua (extralimital)[c]

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[a] I can not agree with Messrs. Salvadori and Festa (see Boll. Mus. Zool., etc., Torino. xv, no. 362, 1899, 10) in their reference of *Scaphorhynchus chrysocephalus* Tschudi to this genus. If not referable to *Myiodynastes* (see p. 655), it should be placed in a separate genus, *Hypermitres* Cabanis, of which it is the type.

[b] Owing to the insufficient number of South American examples available for comparison at the present time, I am unable to do more than roughly separate the South American birds of this species as a whole from those found in Central America and Mexico. There seem to be at least two, and probably three, well-characterized geographic forms in South America, namely: (1) The true *M. pitangua* of eastern Brazil, etc.; (2) *M. pitangua chrysogaster*, of western Ecuador, of which, however, I have not been able to examine a specimen; and (3) a very dark-colored form found in Paraguay, of which there is a single example in the U. S. National Museum.

[c] [*Lanius*] *pitangva* Linnæus, Syst. Nat., ed. 12, i, 1766, 136 (Brazil; based on *Muscicapa tyrannus brasiliensis* Brisson, Orn., ii, 401, pl. 36, fig. 5, etc.).—[*Lanius*] *pitangua* Gmelin, Syst. Nat., i, 1788, 303.—*Tyrannus pitangua* Swainson, Quart. Journ. Sci., xx, Jan., 1826, 270.—*Platyrhynchus pitangua* Temminck, Tabl. Méth., 1820, 23.—*M*[*uscicapa*] *pitangua* Lichtenstein, Verz. Doubl., 1823, 54.—*Scaphorhynchus pitangua* Strickland, Ann. and Mag. N. H., vii, 1841, 28.—*Megarynchus pitangua* Thunberg, Dissert. p. Schaerstr., 1824, no. 1.—*Megarhynchus pitangua* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 189, part.—*Tyrannus pitanga* Descourtilz, Orn. Brés., 1856, pl. 22, fig. (2).—*Megarhynchus pitanguus* Finsch, Proc. Zool. Soc. Lond., 1870, 571 (crit.).—*Megarhynchus pitangus* Allen, Bull. Am. Mus. N. H., xxi, 1905, 283 (descr. nest and eggs).—

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bb. Larger (wing averaging 124.9 in male, 121.3 in female); color of back, etc., brighter or more greenish olive. (Southern Mexico to Panama.)
Megarynchus pitangua mexicanus (p. 665)

aa. Pileum sooty gray or deep mouse gray; back, etc., decidedly grayish olive. (Western Mexico.).....**Megarynchus pitangua caniceps** (p. 667)

MEGARYNCHUS PITANGUA MEXICANUS (Lafresnaye).

BOAT-BILLED FLYCATCHER.

Adults (sexes alike).[a]—Pileum sooty black or very dark sooty brown (clove brown), the crown with a concealed patch of pure yellow (canary or lemon), rufous-tawny, or of intermediate color; hindneck, back, scapulars, and rump plain greenish olive, varying to almost olive-green; upper tail-coverts, tail, and wings grayish brown (nearly hair brown), the remiges narrowly edged with paler, these edgings becoming more or less cinnamomeous or rusty on inner primaries and distal secondaries; a broad superciliary stripe of white, the two of opposite sides nearly confluent on nape; a broad stripe or patch of black on side of head, involving whole of loral, orbital, and auricular regions and upper portion of malar region; chin, throat, and lower portion of malar region white; rest of under parts, including axillars and under wing-coverts, pure, bright lemon or canary yellow; bill black, the mandible usually more brownish basally; iris brown; legs and feet dusky (in dried skins).

Young.—Essentially like adults but without yellow or tawny on crown, the median portion of pileum often squamated with pale grayish buffy; feathers of back, etc., margined with paler; wing-coverts and upper tail-coverts margined with cinnamon, cinnamon-buff, or whitish; rectrices and secondaries broadly edged and terminally margined with cinnamon or cinnamon-buff, becoming whitish on inner secondaries.

Tyrannus carnivorus Vieillot, Tabl. Enc. Méth., ii, 1822, 847 (=*Lanius pitangva* Linnæus).—*Scaphorhynchus sulphuratus* Maximilian, Beitr. Naturg. Bras., iii, 1831, 983.—*Megastoma flaviceps* Swainson, Anim. in Menag., 1838, 285 (n. Brazil).—*S[caphorhynchus] flaviceps* Gray, Gen. Birds, i, 1847, 246.—*Megastoma ruficeps* Swainson, Anim. in Menag., 1838, 285 (s. Brazil).—*S[caphorhynchus] ruficeps* Lichtenstein, Syst. Verz., 1844, 49.—*Megastoma atriceps* Swainson, Anim. in Menag., 1838, 285 (Brazil; =young).—*S[caphorhynchus] atriceps* Gray, Gen. Birds, i, 1847, 246.—[*Tyrannus*] *magnirostris* Swainson, Fauna Bor.-Am., ii, 1831, 484 (=*Lanius pitangva* Linnæus).—(?) *Megarhynchus chrysogaster* Sclater, Proc. Zool. Soc. Lond., 1860, 281, 295 (Babahoyo, w. Ecuador; coll. P. L. Sclater).—(?) *Megarhynchus pitangua chrysogaster* Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 557 (crit.); 1885, 91, 122.

[a] If any approximation to general accuracy in the sexing of specimens has been attempted by collectors, it is quite certain that the variation in the color of the concealed crown-patch (which may be either pure canary or lemon yellow or rufous-tawny) is not due to difference of sex. It seems to be either a purely individual variation or else due to difference of age.

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Adult male.—Length (skins), 208–246 (224); wing, 117.5–137 (124.9); tail, 82–100 (90.5); exposed culmen, 27–34 (30.6); tarsus, 19–21.5 (20.3); middle toe, 14.5–17.5 (16.3).[a]

Adult female.—Length (skins), 213–240 (224); wing, 111.5–132.5 (121.3); tail, 86.5–93 (88.7); exposed culmen, 28.5–32.5 (30.3); tarsus, 19.5–22.5 (20.4); middle toe, 15–18.5 (16.4).[b]

Southeastern Mexico to Panama. *Mexico:* Tamaulipas (Alta Mira); Vera Cruz (Jalapa; Orizaba; Antigua; Papantla; Pasa Nueva; Motzorongo). Puebla (Metlaltoyuca). Oaxaca (Chihuitan; Guichicovi; Santo Domingo; Santa Efigenia; Tehuantepec). Tabasco (Frontera). Chiapas (Huehuetan; Ocuilapa). Yucatan (Merida; La Vega; Temax; Chichen-Itza). *Guatemala:* Choctum; Salamá; Rio Managua; Naranjo; Secanquim; Vera Paz. *Honduras:* Taulavi; Ceiba; Yaruca; Segovia River. *Nicaragua:* Chontales; Greytown; Managua; Chinandega; San Juan del Sur; Rio Escondido. *Costa Rica:* Turrialba; Grecia; Barranca; San José; Dota; Sipurio; La Cedra de Aserri; Carrillo; Bonilla; Jiménez; Volcan de Miravalles; San Lucas. *Panama:* Panama; Divala; Boquete; El Banco.

Scaphorhynchus mexicanus LAFRESNAYE, Rev. et. Mag. de Zool., iii, Oct., 1851, 473 (Mexico; type now in coll. Bost. Soc. N. H.).—SCLATER, Proc. Zool. Soc. Lond., 1857, 204 (Jalapa, Vera Cruz); 1858, 358 (Taulavi, Honduras); Ibis, 1859, 120, 438 (Jalapa and Orizaba, Vera Cruz).—SALVIN and SCLATER, Ibis, 1859, 120 (Guatemala).—TAYLOR, Ibis, 1860, 113 (Taulavi, Honduras).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 556 (Vera Cruz).

M[egarhynchus] mexicanus HEINE, Journ. für Orn., 1859, 346 (crit.).—CABANIS and HEINE, Mus. Hein., ii, 1859, 64, footnote (Mexico and Central America).

Megarhynchus mexicanus CABANIS, Journ. für Orn., 1861, 246 (Costa Rica).—SCLATER, Cat. Am. Birds, 1862, 224 (Orizaba; Choctum, Guatemala).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295 (Panama); viii, 1867, 182 (Greytown,

[a] Thirty-four specimens.

[b] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from southeastern Mexico	127.8	94.4	31.2	21	16.5
Four adult males from Yucutan	122.3	89.3	32	20	15.9
Eight adult males from Chiapas, Guatemala, and Honduras	123.6	89.9	30.1	20.5	16.7
Ten adult males from Nicaragua and Costa Rica	126.6	90.5	29.9	20	15.9
Six adult males from Panama	123.2	86.1	30.8	19.8	16.3
Seven adult males (of *M. p. pitangua*) from South America	114.6	84.2	30.9	19.1	15
FEMALES.					
Three adult females from southeastern Mexico	127.3	90.2	29.7	20.8	16.7
Two adult females from Yucutan	115	87.3	31	20	16.3
Two adult females from Chiapas and Guatemala	124.3	90.3	30.8	19.8	16.3
Six adult females from Costa Rica	121.2	88.2	30.1	20.7	16.3
One adult female from Panama	118.5	87.5	31	19.5	16
Seven adult females (*M. p. pitangua*) from South America	111.9	81	30.4	19	15.5

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Nicaragua); ix, 1868, 114 (Barranca, San José, Turrialba, and Grecia, Costa Rica); ix, 1869, 201 (Yucatan); Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Guichicovi, Chihuitan, and Santa Efigenia, Oaxaca).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama; crit.).—FRANTZIUS, Journ. für Orn., 1869, 308 (Costa Rica).—SALVIN, Ibis, 1872, 318 (Chontales, Nicaragua).—NEHRKORN, Journ. für Orn., 1881, 67 (Yucatan; descr. eggs).

[*Megarhynchus*] *mexicanus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 144 (Mexico).

Megarhynchus pitangua mexicana BANGS, Proc. New Engl. Zool. Club, iii, Jan. 30, 1902, 37 (Boquete, Panama, 4,000 ft.).

Megarhynchus pitangua mexicanus BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, 1903, 148 (Ceiba and Yaruca, Honduras).

[*Megarhynchus*] *pitangua* (not *Lanius pitangva* Linnæus) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50, part.—SHARPE, Hand-list, iii, 1901, 130, part.

Megarhynchus pitangua BOUCARD, Proc. Zool. Soc. Lond., 1878, 63 (San José, Costa Rica); 1883, 448 (Yucatan; habits).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1883, 500 (San José, Costa Rica).—CHERRIE, Auk, ix, 1892, 251 (San José; descr. nest and eggs).—RICHMOND, Proc. U. S. Nat. Mus., xviii, 1896, 630 (Alta Mira, Tamaulipas).—UNDERWOOD, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—CHAPMAN, Bull. Am. Mus. N. H., viii, 1896, 283 (Chichen; Itza, Yucatan).—ALFARO, Paginas Illustradas, i, 1904, 504 (Costa Rica-habits; descr. nest and eggs).

(?) *Tyrannus eximius* PAUL VON WURTTEMBERG, Naumannia, 1852, 46 (in letter to J. Hartlaub).

MEGARYNCHUS PITANGUA CANICEPS Ridgway.

JOUY'S BOAT-BILLED FLYCATCHER.

Similar to *M. p. mexicanus*, but pileum sooty gray or deep mouse gray instead of sooty blackish, and color of back, etc., much grayer olive.

Adult male.—Length (skin), 242; wing, 125.5; tail, 96.5; exposed culmen, 32.5; tarsus, 20; middle toe, 17.[a]

Adult female.—Length (skin), 230; wing, 125; tail, 94; exposed culmen, 32.5; tarsus, 21; middle toe, 18.[a]

Western Mexico (Barranca Veltran, Jalisco).

Megarhynchus pitangua (not *Lanius pitangva* Linnæus) JOUY, Proc. U. S. Nat. Mus., xvi, 1894, 783 (Barranca Veltran, s. Jalisco).—(?) MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 358 (Mount Juan Lisiarraga, Sinaloa).

Megarynchus pitangua caniceps RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 116 (Barranca Veltran, Jalisco, Mexico; coll. U. S. N. M.).

Genus CORYPHOTRICCUS Ridgway.

Coryphotriccus RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 115. (Type, *Pitangus alborittatus* Lawrence.)

Small Tyrannidæ (wing 77–82 mm.), similar to the smaller species of *Pitangus* (*P. lictor*), but bill relatively much shorter and broader (exposed culmen little, if any, longer than tarsus and much less than

[a] One specimen.

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twice the width of bill at frontal antiæ), rictal bristles much weaker, and nostril much higher (midway between tomium and culmen); more nearly related to *Conopias*,[a] but bill relatively much larger (exposed culmen equal to or slightly longer than tarsus), and crown with a large concealed patch of yellow.

Bill decidedly shorter than to nearly as long as head, broadly cuneate in vertical profile, its width at frontal antiæ much more than half the length of exposed culmen and nearly twice its depth at same point; culmen nearly if not quite straight to near tip, where rather abruptly decurved, the tip of maxilla moderately uncinate; gonys longer than mandibular rami, distinctly convex, at least basally; maxillary tomium nearly straight, distinctly deflexed basally and notched subterminally. Nostril exposed, very small, broadly oval or nearly circular, situated midway between tomium and culmen, with broad membrane filling nasal fossæ above and behind. Rictal bristles distinct, but rather weak; latero-frontal antrorse bristles distinct, but small. Wing rather short, rounded, the longest primaries exceeding secondaries by much less than length of exposed culmen; ninth, eighth, or ninth, eighth and seventh primaries longest, the tenth (outermost) equal to fourth or intermediate between fourth and fifth. Tail equal to length of wing from bend to end of longest secondaries, or slightly longer, even or very slightly emarginate or double-rounded. Tarsus equal to or slightly shorter than exposed culmen (slightly more than one-fifth as long as wing), its scutellation typically exaspidean; middle toe (without claw) decidedly shorter than tarsus; outer toe reaching to middle of subterminal phalanx of middle toe, the inner toe slightly shorter; basal phalanx of middle toe united to outer toe for half its length, or more; hallux (without claw) shorter than inner toe (without claw), its claw shorter than the digit.

Coloration.—Pileum blackish, inclosing a yellow crown-patch and encircled by a broad band of white; a broad blackish stripe on side of head; upper parts greenish or grayish olive; under parts yellow, the chin and throat white in one species.

Range.—Panama to Brazil. (Two species.)

KEY TO THE SPECIES OF CORYPHOTRICCUS.

a. Throat white; back, etc., greenish olive. (Panama.)
Coryphotriccus albovittatus (p. 669)

aa. Throat yellow, like rest of under parts; back, etc., grayish olive. (Guiana to Brazil.) ..... **Coryphotriccus parvus** (extralimital)[b]

[a] *Conopias* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 62, footnote. (Type, *Tyrannula superciliosa* Swainson, = *Muscicapa trivirgata* Maximilian.) (South America; three species.)

[b] *Pitangus parvus* Pelzeln, Orn. Bras., ii. Abth., 1869, 181 (Maribatanas, Brazil; coll. Vienna Mus.); Salvin, Cat. Strickland Coll., 1882, 310 (crit.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 179.

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CORYPHOTRICCUS ALBOVITTATUS (Lawrence).

WHITE-RINGED FLYCATCHER.

Adults (*sexes alike*).—Pileum dark sooty brown (clove brown), inclosing a large, mostly concealed, crown-patch of lemon or canary yellow and bordered by a broad superciliary stripe of white (the two of opposite sides confluent on nape and, more narrowly, forehead); hindneck, back, scapulars, rump, and upper tail-coverts plain grayish olive-green; tail dark grayish brown, the rectrices edged with light grayish brown or olive; wings dusky, with narrow paler edgings, these whitish or pale yellowish on secondaries, pale grayish brown or olive on wing-coverts, darker grayish brown (and much less distinct) on primaries; loral, suborbital, postocular, and auricular regions dark sooty brown, the suborbital region and anterior portion of auricular region with fine whitish shaft-streaks; malar region, chin, and throat white; rest of under parts, including axillars and under wing-coverts, pure canary yellow; inner webs of remiges edged with pale (primrose) yellow; bill black; legs and feet blackish (in dried skins).

Adult male.—Length (skin), 150; wing, 79.5; tail, 65.5; exposed culmen, 16; tarsus, 16.5; middle toe, 12.[a]

Adult female.—Length (skin), 145; wing, 77; tail, 66; exposed culmen, 16.5; tarsus, 16.5; middle toe, 12.5.[a]

Eastern Panama.

Pitangus albovittatus LAWRENCE, Ibis, 1st ser., iv, Jan., 1862, 11 (Panama R. R.; coll. G. N. Lawrence); Ann. Lyc. N. Y., vii, 1862, 471 (do.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 179.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 46.

[*Pitangus*] *albovittatus* GRAY, Hand-list, i, 1869, 357, no. 5426.—SHARPE, Hand-list, iii, 1901, 128.

Genus PITANGUS Swainson.

Pitangus SWAINSON, Zool. Journ., iii, July, 1827, 165. (Type, *Lanius sulphuratus* Linnæus.)

Saurophagus SWAINSON, Faun. Bor.-Am., ii, 1831, 484. (Type, *Lanius sulphuratus* Linnæus.)

Apolites SUNDEVALL, K. Vet.-Akad. Handl., 1835 (1836), 81. (Type, *Lanius sulphuratus* Linnæus.)

Rather small to very large Tyrannidæ (wing about 80–130 mm.) with tarsus about as long as middle toe with claw, bill about as long as head, narrow, its width at posterior end of nostrils equal to less than half the distance from nostril to tip of maxilla and less than one and a half times its depth at same point, gonys much less than twice as long as mandibular rami, tenth (outermost) primary shorter than

[a] One specimen.

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first, tail shorter than distance from bend of wing to end of distal secondaries (about four-fifths as long as wing), latero-frontal feathers forming a compact tuft nearly if not quite concealing nostrils, under parts (except throat) bright yellow, and pileum and broad stripe on sides of head black, separated by a conspicuous white superciliary stripe, the crown with a concealed patch of yellow.

Bill about as long as head, narrow and tapering in both lateral and vertical profiles, its width at posterior end of nostrils equal to less than half the distance from nostril to tip of maxilla and less than one and a half times its depth at same point, narrowly wedge-shaped in vertical profile, with lateral outlines straight and converging gradually to the nonconstricted tip; exposed culmen slightly shorter than tarsus, distinctly ridged, straight to near tip, where rather abruptly decurved, the tip of maxilla distinctly uncinate; gonys much less than twice as long as mandibular rami, slightly convex, ascending terminally, its base rather prominent; maxillary tomium nearly straight, distinctly notched subterminally. Nostril concealed beneath dense antrorse feathering of latero-frontal antiæ, small, longitudinally oval, margined above by very narrow (scarcely obvious) membrane. Rictal bristles moderately developed; feathers of chin with recurved, those of latero-frontal antiæ with arched, bristly points, the malar antiæ with a few strong antrorse bristles. Wing moderate, rounded, the longest primaries exceeding distal secondaries by less than length of tarsus; seventh and eighth, or sixth, seventh, and eighth primaries longest, ninth shorter than sixth (sometimes shorter than fifth), the tenth (outermost) not longer than first (sometimes shorter than secondaries). Tail about four-fifths as long as wing or slightly less (not longer than distance from bend of wing to end of distal secondaries), slightly to distinctly rounded, the rectrices of uniform width, with rounded tip. Tarsus between one-fourth and one-fifth as long as wing, rather stout, its scutellation ultraexaspidean, the acrotarsial scutella distinct and all extending quite across outer side of tarsus; middle toe, with claw, slightly shorter to slightly longer than tarsus, its basal phalanx united to outer toe for more, to the inner toe for less, than its basal half; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe distinctly shorter; hallux shorter than inner toe, its claw shorter than the digit; all the claws rather long, moderately curved, sharp.

Coloration.—Pileum black with a central concealed patch of yellow; rest of upper parts plain brown or olive, the rectrices and remiges sometimes with rufous edgings; a broad superciliary stripe of white, and below this a much broader band of black across side of head; under parts bright yellow, the throat white.

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Nidification.—Nest a very bulky mass of dried twigs, grass, etc., covered above, with entrance in one side, placed in bushes or low trees (often thorny). Eggs creamy white or buffy, spotted with various shades of brown or reddish brown, lilac, etc.

Range.—Mexico (including Rio Grande Valley in Texas) to Ecuador, Bolivia, Argentina, southeastern Brazil, and Guiana. (About eight species, including subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF PITANGUS.

a. Larger (wing 103–130 mm.); bill stouter. (*Pitangus sulphuratus.*)

b. Inner webs of rectrices grayish brown, very narrowly, if at all, edged with cinnamon or cinnamon-rufous; outer webs of remiges narrowly edged with cinnamon or cinnamon-buff.

c. Smaller and darker, with cinnamomeous edgings on remiges more distinct. (Guiana to eastern Peru and middle Brazil.)

Pitangus sulphuratus sulphuratus (extralimital)[a]

cc. Larger and paler, with cinnamomeous edgings on remiges less distinct. (Argentina, Paraguay, Uruguay, and Bolivia.)

Pitangus sulphuratus bolivianus (extralimital)[b]

bb. Inner webs of rectrices cinnamon-rufous, except part of terminal portion; outer webs of remiges wholly cinnamon-rufous except terminally.

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[a] [*Lanius*] *sulphuratus* Linnæus, Syst. Nat., ed. 12, i, 1766, 137 (Cayenne; based on *Lanius cayanensis luteus* Brisson, Orn., ii, 176, pl. 16).—*Tyrannus sulphuratus* Vieillot, Ois. Am. Sept., i, 1807, 77, pl. 47.—*Megarynchus sulphuratus* Thunberg, Dissert. p. Schaerstr., 1824, no. 2.—*Saurophagus sulphuratus* Swainson, Classif. Birds, ii, 1837, 225.—*P*[*itangus*] *sulphuratus* Gray, List Gen. Birds, 1841, 41.—*Pitangus sulphuratus* Sclater, Proc. Zool. Soc. Lond., 1859, 45; Cat. Birds Brit. Mus., xiv, 1888, 176.—*P*[*itangus*] *s*[*ulphuratus*] *sulphuratus* Hellmayr, Novit. Zool., xiii, 1906, 24 (diagnosis and range).—[*Pitangus sulphuratus*] a. Subsp. *typica* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 177.—*Corvus leucogaster* Boddaert, Tabl. Pl. Enl., 1783, 15 (based on Pl. Enl., pl. 249).—[*Corvus*] *flavus* Gmelin, Syst. Nat., i, 1788, 373 (based on *Garul ou Geay à ventre jaune de Cayenne* Buffon, Hist. Nat. Ois., iii, 119; Daubenton, Pl. Enl., pl. 249).—*S*[*aurophagus*] *flavus* Gray, Gen. Birds, i, 1847, 246.—[*Corvus*] *flavigaster* Latham, Index Orn., i, 1790, 162 (=*Corvus flavus* Gmelin).—*Corvus flaviventris* Shaw, Gen. Zool., vii, 1809, 364 (cites Pl. Enl., 249).—*Tyrannus magnanimus* Vieillot, Tabl. Enc. Méth., ii, 1823, 850 (=*Lanius sulphuratus* Linnæus).

Specimens from southern Brazil are intergrades between this form and *P. s. bolivianus*:—*Muscicapa pitangua* (not *Lanius pitangva* Linnæus) Maximilian, Beitr. Naturg. Bras., iii, 1831, 838.—*S*[*aurophagus*] *maximiliani* Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 63 (Brazil; coll. Heine Mus.).—*Pitangus maximiliani* Sclater, Cat. Am. Birds, 1862, 222.—[*Pitangus sulphuratus.*] Subsp. *maximiliani* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 177.—*Pitangus sulphuratus maximiliani* Ihering, Rev. Mus. Paul., iv, 1900, 45, 234 (descr. nest and eggs).

[b] *Saurophagus bolivianus* Lafresnaye, Rev. et Mag. de Zool., Oct., 1852, 463 (Chuquisaca, Bolivia; type now in coll. Bost. Soc. N. H.).—*Pitangus bolivianus* Berlepsch and Ihering, Zeitschr. ges. Orn., 1885, 134; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 177.—*Pitangus sulphuratus bolivianus* Ihering, Rev. Mus. Paul., iv, 1900, 234, fig. 15 (descr. nest and eggs).—*S*[*aurophagus*] *bellicosus* Cabanis and Heine, ii, Sept., 1859, 64 (Rio Grande do Sul, s. Brazil; Montevideo, Uruguay; coll. Heine Mus.).—*Pitangus bellicosus* Sclater, Cat. Am. Birds, 1862, 222.

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c. Smaller and darker, with rufous margins to wing-coverts and inner secondaries broader, and with lower back, rump, and posterior scapulars strongly rufescent. (Venezuela and Colombia.)

Pitangus sulphuratus rufipennis (extralimital)[a]

cc. Larger and paler, with rufous margins to wing-coverts and inner secondaries narrower, and without rufescent tinge to lower back, rump, and posterior scapulars. (Costa Rica to southern Texas.)

Pitangus sulphuratus derbianus (p. 672)

aa. Smaller (wing 80.5–96 mm.); bill more slender. (Panama to Brazil.)

Pitangus lictor (p. 675)

PITANGUS SULPHURATUS DERBIANUS (Kaup).

DERBY FLYCATCHER.

Adults (*sexes alike*).—Forehead and broad superciliary stripe (the two of opposite sides confluent, or nearly so, on nape), the first, together with antrorse nasal plumes more or less tinged with grayish or grayish brown; area within this white border black, with a large concealed median patch of bright yellow (lemon to nearly cadmium); hindneck, back, scapulars, and rump plain olive-brown or brownish olive (varying to nearly bister); upper tail-coverts browner, margined or suffused (more or less strongly) with cinnamon-rufous; tail grayish brown, the outer webs more or less broadly edged with cinnamon or cinnamon-rufous, the inner webs almost wholly of the latter color; wing-coverts grayish brown or olive-brown, broadly margined with cinnamon-rufous; remiges cinnamon-rufous, the inner secondaries with exposed portion mostly grayish brown or olive-brown, the remaining secondaries, together with primaries, with terminal portion (except on edges) and terminal half (more or less) of median portion deep grayish brown; lores, suborbital region, postocular region, and auricular region black; malar region, chin, and throat white; rest of under parts, including axillars and under wing-coverts, pure canary or lemon yellow; bill black, the lower portion of mandible slightly more brownish; iris, legs, and feet blackish.

Young.—Similar to adults, but without any yellow on crown and with cinnamon-rufous margins to wing-coverts and inner secondaries broader and rather paler.

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[a] *Saurophagus rufipennis* Lafresnaye, Rev. et Mag. de Zool., iii, 1851, 471 (Caracas, Venezuela; type now in coll. Bost. Soc. N. H.).—*Pitangus rufipennis* Sclater, Cat. Am. Birds, 1862, 222 (Trinidad).—*Pitangus derbyanus rufipennis* Berlepsch, Ibis, 1884, 434.—*Pitangus derbianus rufipennis* Phelps, Auk, xiv, Oct., 1897, 365.—[*Pitangus derbianus.*] Subsp. *rufipennis* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 176.—*Pitangus derbianus* (not *Saurophagus derbianus* Kaup) Salvin and Godman, Ibis, 1879, 201 (Valle Dupar, Santa Marta, Colombia; crit.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 175, part.—*P*[*itangus*] *s*[*ulphuratus*] *rufipennis* Hellmayr, Novit. Zool., xiii, 1906, 24 (diagnosis and range).

Specimens from Trinidad are distinctly intermediate between this form and *P. s. sulphuratus*. They have been separated subspecifically by Hellmayr (Novit. Zool., xiii, no. 1, Feb. 24, 1906, 24) as *Pitangus sulphuratus trinitatis*.

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Adult male.—Length (skins), 206–243 (237); wing, 113.5–129 (120.7); tail, 81.5–101 (91.6); exposed culmen, 25–30.5 (27.6); tarsus, 23.5–28 (25.8); middle toe, 17.5–19.5 (18.4).[a]

Adult female.—Length (skins), 205–252 (214); wing, 111–130 (113.9); tail, 79.5–96 (85); exposed culmen, 25–29 (25.3); tarsus, 25–28.5 (25.3); middle toe, 16.5–20 (17.5).[b]

Lower Rio Grande Valley, Texas, and southward through Mexico and Central America to Costa Rica. *Texas:* Hidalgo; Lomita Ranch; Brownsville. *Mexico:* Tamaulipas (Soto la Marina; Tampico; Hidalgo; Forlon; Alta Mira). Nuevo Leon (Rio Camacho). Morelos (Yautepec). Zacatecas. Guanajuato. Mexico (City of Mexico). Sinaloa (Mazatlan; Escuinapa). Jalisco (Guadalajara; Ocotlan). Colima (Colima; Plains of Colima). Guerrero (Acapulco; Nuevo Egido). Oaxaca (Santa Efigenia; Tuxtepec; Chihuitan). Vera Cruz (Cordova; Jalapa; Motzorongo). Tabasco (Montecristo; Frontera). Yucatan (Merida; Mujeres, Meco, and Cozumel islands). Chiapas (Huehuetan; Tonalá). *Guatemala:* San Gerónimo; Retalhuleu; Dueñas. *British Honduras:* Belize. *Honduras:* San Pedro; San Pedro Sula; Rio Segovia; Ceiba; Yaruca; Truxillo. *Salvador:* San Salvador. *Nicaragua:* San Juan del Sur; Sucuyá; Rio Escondido; Rio San Juan. *Costa Rica:* Santa Ana; Santa Anathole; La Palma de Nicoya; San José; Alajuela; Bebedero; Santo Domingo de San Mateo; Pigres; Pozo Azul de Pirris.

[a] Twenty-two specimens.

[b] Twenty-five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Texas (1) and Tamaulipas (4)	123.6	97	28.2	26.7	18.5
Four adult males from western Mexico	127	91.3	28.1	26.4	18.8
Two adult males from Vera Cruz and Oaxaca	122.5	93.5	29	27	19
Two adult males from Tabasco	114.7	88.5	26.7	25.5	18.2
One adult male from Chiapas	118	91	27	23.5	18
One adult male from British Honduras	115	91	25	25	18.5
Three adult males from Honduras	115.3	88.7	27	24.3	17.7
Four adult males from Nicaragua (3) and Costa Rica (1)	119.5	88.4	27.4	25.4	18.3
FEMALES.					
Four adult females from Texas (2) and Tamaulipas (2)	121.6	93.8	28.2	26.5	18.1
Two adult females from Oaxaca	119.8	91.5	28.7	27	18.8
Four adult females from Tabasco	113.7	85.9	28.1	25.4	16.9
Four adult females from western Mexico	124.3	90.6	28.2	27	18.6
One adult female from Guatemala	121	89	.....	23.5	18
Ten adult females from Nicaragua (5) and Costa Rica (5)	116.3	85.9	26.8	26.5	18.4

Specimens from Tamaulipas and southern Texas average slightly paler, especially the yellow of the under parts.

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Tyrannus sulphuratus (not *Lanius sulphuratus* Linnæus) SWAINSON, Philos. Mag., i, 1827, 368 (Mexico).

S[aurophagus] sulphuratus HARTLAUB, Syst. Verz., 1844, 48 (Guatemala).

Saurophagus sulphuratus GAMBEL, Journ. Ac. Nat. Sci. Philad., ser. 1, i, 1847, 39 ("extremely abundant about the Gulf of California").

Saurophagus derbianus KAUP, Proc. Zool. Soc. Lond., 1851, 44, pl. 36 (Zacatecas, Mexico; coll. Derby Museum).

S[aurophagus] derbianus CABANIS and HEINE, Mus. Hein., ii, 1859, 62 (Mexico).—FINSCH, Abh. nat. Ver. Bremen, 1870, 329.

[*Saurophagus*] *derbianus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 143 (Mexico).

Pitangus derbianus SCLATER, Proc. Zool. Soc. Lond., 1856, 297 (Cordova, Vera Cruz); 1859, 45 (Mexico and Central America), 56 (Belize, British Honduras), 366 (Jalapa); 1864, 176 (City of Mexico); Ibis, 1859, 120, 438 (Cordova and Jalapa, Vera Cruz), pl. 5, fig. 3 (egg); Cat. Am. Birds, 1862, 221 (Jalapa; San Gerónimo, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 175, part (Jalapa; Mazatlan; Acapulco, Tonalá, Chiapas; n. Yucatan; Mujeres I., Meco I., and Cozumel I., Yucatan; Belize, British Honduras; San Pedro, Honduras; San Gerónimo, Retalhuleu, and Dueñas, Guatemala).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Omoa, Honduras; Belize, British Honduras).—SCLATER and SALVIN, Ibis, 1859, 120 (Dueñas, Guatemala; Belize, British Honduras; descr. nest and eggs); Proc. Zool. Soc. Lond., 1870, 837 (San Pedro, Honduras).—OWEN, Ibis, 1861, 63 (San Gerónimo, Guatemala; habits; descr. nest and eggs).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 201 (Santa Ana, Costa Rica), ix, 1869, 201 (Merida, Yucatan); Mem. Bost. Soc. N. H., ii, pt. iii, 1874, 286 (Mazatlan, Sinaloa; Plains of Colima; habits; notes; descr. nest and eggs); Bull. U. S. Nat. Mus., no. 4, 1876, 26 (Chihuitan, Tapana, and Santa Efigenia, Oaxaca).—FRANTZIUS, Journ. für Orn., 1869, 307 (Santa Anathole, Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—COUES, Bull. U. S. Geol. and Geog. Surv. Terr., v, 1879, 407 (Lomita Ranch, Texas; synonymy); Check List, 2d ed., 1882, no. 364.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 308.—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 394, 500 (La Palma and San José, Costa Rica); vi, 1883, 374, 384 (San Juan del Sur and Sucuyá, Nicaragua).—SALVIN, Proc. Zool. Soc. Lond., 1883, 424 (Acapulco, Guerrero); Ibis, 1889, 360 (Meco, Mujeres, and Cozumel islands, Yucatan; crit.).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Yucatan; habits).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 154 (Chietla, Puebla).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 449.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 43, chiefly (Rio Camacho, Nuevo Leon, etc.; excl. South American localities).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 251, pl. 1, figs. 20, 21 (eggs).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 250.—BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 148 (Ceiba and Yaruca, Honduras; crit.).

Pitangus derbianus derbianus MILLER (W. D.), Bull. Am. Mus. N. H., xxi, Nov. 24, 1905, 357 (Escuinapa, etc., Sinaloa; crit.).

Pitangus derbyanus COUES, The Country, July 13, 1878, 184 (Lomita Ranch, Texas).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 90 (Lomita Ranch).

[*Pitangus*] *derbianus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50.—SHARPE, Hand-list, iii, 1901, 127.

P[itangus] derbianus COUES, Key N. Am. Birds, 2d ed., 1884, 430; 5th ed., i, 1903, 516.—RIDGWAY, Man, N. Am. Birds, 1887, 331.

Lanius flavus LICHTENSTEIN, Preis-Verz. Mex. Vög., 1831, 2; Journ. für Orn., 1863, 58 (reprint).

Saurophagus guatimalensis LAFRESNAYE, Rev. et Mag. de Zool., Oct., 1852, 462 (Guatemala).

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PITANGUS LICTOR (Lichtenstein).

LICTOR FLYCATCHER.

Adults (sexes alike).—Pileum black, or sooty black, the crown with a large concealed patch of bright yellow (usually lemon, but varying from canary to cadmium); hindneck, back, scapulars, rump, and lesser wing-coverts plain olive; upper tail-coverts deep grayish brown or dark olive, margined, more or less distinctly, with rusty; tail deep to dark grayish brown, the middle rectrices edged with cinnamon or rusty, the exterior ones with pale grayish brown, the inner webs of all narrowly edged (more broadly basally) with pale cinnamon; wings deep grayish brown with paler edgings, the remiges (sometimes also the greater coverts) edged with cinnamon or rusty; a conspicuous superciliary stripe of white, the two of opposite sides confluent, or nearly so, on nape; loral, postocular, auricular, and suborbital regions uniform black, or sooty black, the first usually more or less intermixed with grayish; malar region, chin, and throat white; rest of under parts, including axillars and under wing-coverts, bright lemon or canary yellow; inner webs of remiges broadly edged with pale cinnamon-rufous; bill black; legs and feet black or blackish brown (in dried skins).

Young.—Similar to adults but black of head duller, the crown without yellow or with but little of that color, back, etc., browner (less greenish) olive, and yellow of under parts paler.

Adult male.—Length (skins), 157–172 (165); wing, 87.5–89 (88.3); tail, 70–74.5 (71.5); exposed culmen, 20.5–21.5 (21); tarsus, 18.5–19 (18.7); middle toe, 11.5–12.5 (12).[a]

Adult female.—Length (skins), 154–173 (164); wing, 80.5–85.5 (83.6); tail, 63.5–74 (68.1); exposed culmen, 20.5–23 (21.5); tarsus, 17.5–19 (18.2); middle toe, 11–12 (11.7).[b]

Panama (Lion Hill; Panama) and southward through Colombia (Rio Truando; Rio Atrato; Cacagualito; Bogota), Venezuela (Altagracia; Ciudad Bolivar; La Pricion; Suapure; Rio Mato; Sacupana; Delta of Orinoco), Trinidad, British Guiana (Bartica Grove), and Cayenne to Brazil (Pará; Mexiana Island; Santarem; Bahia; Rio Capim; Mattogrosso), eastern Ecuador (Valle de Santiago) and eastern Peru (Yquitos).

L[anius] lictor Lichtenstein, Verz. Doubl., 1823, 49 (Pará, Brazil; coll. Berlin Mus).

S[aurophăgus] lictor Gray, Gen. Birds, i, 1847, 246, pl. 62.—Cabanis and Heine, Mus. Hein., ii, 1859, 62 (Brazil).

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[a] Three specimens.

[b] Five specimens.

Two specimens (unsexed) from Brazil (Santarem and Bahia) are larger, measuring as follows: Wing, 93.5–96 (94.7); tail, 75–77 (76); exposed culmen, 22–23.5 (22.7); tarsus, 19.5; middle toe, 12.5–13 (12.7). Apparently they do not differ in coloration from more northern examples.

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Saurophagus lictor CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 698.—KAUP, Proc. Zool. Soc. Lond., 1851, 44.—BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 462.—EULER, Journ. für Orn., 1867, 226 (Brazil; nesting habits, etc.)—GOELDI, Ibis, 1903, 499 (Rio Capim, n. e. Brazil).

[*Saurophagus*] *lictor* BONAPARTE, Consp. Av., i, 1850, 193 (Pará).—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 143 (Brazil; Cayenne).

Pitangus lictor SCLATER, Cat. Am. Birds, 1862, 221 (Pará, Brazil); Cat. Birds Brit. Mus., xiv, 1888, 178 (Mattogrosso, Bahia, Pará, and Mexiana I., Brazil; Bartica Grove, British Guiana; Yquitos, e. Peru; Bogota, Colombia; Panama). LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 327 (Lion Hill, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama; crit.); 1867, 578 (Mexiana I., lower Amazon; Venezuela).—PELZELN, Orn. Bras., ii. Abth., 1869, 111; iv. Abth., 1870, 425.—SALVIN, Cat. Strickland Cöll., 1882, 310 (Brazil; Trinidad); Ibis, 1885, 296 (Bartica Grove, British Guiana).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 45.—RIKER and CHAPMAN, Auk, vii, 1890, 270 (Santarem).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 10 (Valle del Santiago, e. Ecuador).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 21 (Lion Hill, Panama).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 146 (Cacagualito, Santa Marta, Colombia).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 48 (Altagracia, Ciudad Bolivar, Suapure, and La Pricion, Venezuela).

[*Pitangus*] *lictor* GRAY, Hand-list, i, 1869, 357, no. 5422.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50.—SHARPE, Hand-list, iii, 1901, 128.

Muscicapa cayennensis (not *M. cayanensis* Linnæus) MAXIMILIAN, Beitr. Naturg. Bras., iii, pt. ii, 1831, 846.

Saurophagus cayennensis BURMEISTER, Verz. Mus. Halb., 1850, 47.

(?) *Saurophagus swainsoni* GOULD, Proc. Zool. Soc. Lond., 1835, 185 ("South America").

Saurophagus pusillus SWAINSON, Anim. in Menag., 1838, 284 (Brazil and Guiana).

Megarynchus flavus THUNBERG, Dissert. p. Schaerstroem, 1824, no. 3. (See Heine, Journ. für Orn., 1859, 341.)

Genus TOLMARCHUS Ridgway.

Tolmarchus[a] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209. (Type, *Pitangus taylori* Sclater.)

Rather large Tyrannidæ (wing about 100–115 mm.), similar in general structure to *Pitangus* Swainson, but differing in broader and more depressed bill (its width at posterior end of nostrils equal to more than half the distance from nostril to tip of maxilla and one and a half times its depth at same point), with longer gonys (very nearly twice to more than twice as long as mandibular rami), longer tail (much more than four-fifths as long as wing), much longer tenth (outermost) primary (longer than fourth instead of equal to or shorter than first), more exposed nostrils, more scant and conspicuously bristly latero-frontal feathers, larger rictal bristles, and very different style of coloration (under parts grayish white instead of yellow, no white superciliary stripe, etc.).

[a] *Τόλμα*, bold, daring; *αρχός*, a ruler, chief, or leader.

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Bill about as long as head, moderately depressed and rather broad basally (its width at posterior end of nostrils equal to more than half the distance from nostril to tip of maxilla and one and a half times its depth at same point), rather broadly wedge-shaped in vertical profile, with lateral outlines straight and converging uniformly to the non-constricted tip; exposed culmen longer than tarsus, distinctly ridged, straight for more than basal half, the terminal portion first gently then strongly decurved, the tip of maxilla distinctly uncinate; gonys very nearly to more than twice as long as mandibular rami, faintly convex, ascending terminally, rather prominent basally; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, longitudinally broadly oval or roundish, margined above by narrow membrane. Rictal bristles strongly developed, with distinct lateral barbules on basal portion; feathers of chin with long, recurved bristly points, those of latero-frontal antiæ conspicuously bristly, arching over nostril, and those of malar antiæ conspicuously bristly, antrorse, or semierect. Wing moderate, rounded, the longest primaries exceeding distal secondaries by length of tarsus, or more; eighth or seventh and eighth primaries longest, ninth equal to or longer than sixth (sometimes longer than seventh), the tenth (outermost) longer than fourth. Tail decidedly to much more than four-fifths as long as wing (decidedly longer than distance from bend of wing to end of distal secondaries), decidedly rounded, the rectrices broadly rounded at tip. Tarsus shorter than middle toe with claw, one-fifth to more than one-fifth as long as wing, its scutellation exaspidean, but the outer portion of the acrotarsium sometimes broken up along the posterior margin of the tarsus into a more or less distinct separate series of smaller scutella; basal phalanx of middle toe united to outer toe by its basal half (*T. bahamensis*, *T. caudifasciatus*) or more than its basal half (*T. taylori*), to inner toe for much less than its basal half; outer toe, without claw, reaching to or beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux shorter than inner toe, decidedly stouter, its claw shorter than the digit; all the claws rather large, moderately to strongly curved, sharp.

Coloration.—Above plain gray or grayish brown, the pileum and sides of head much darker (sometimes blackish), the wings dusky with pale grayish or whitish edgings, the tail grayish brown or dusky with or without pale grayish or white tip and abrupt white base to inner webs; under parts white or grayish white, usually shaded with pale gray on chest and sometimes tinged with pale yellow posteriorly; adults with a concealed patch of orange, yellow, or tawny on crown.

Nidification.—Nest (of *T. jamaicensis*) "a loose basket of dry stems of yam, and tendrils of passion-flower, lined with a slight cup of horse-hair and fibers from palmetto-leaves." Eggs "of a drab hue or

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reddish white, with blotches of reddish brown and bluish irregularly intermixed, but chiefly arranged in the form of a crown around the larger end."[a]

Range.—Peculiar to Bahama Islands and Greater Antilles. (Six species.)

KEY TO THE SPECIES OF TOLMARCHUS.

a. Inner webs of rectrices with basal third, or more, abruptly yellowish white; tail tipped with pale brownish gray or whitish.
  b. Pileum dusky grayish, not approaching black. (Bahama Islands.) **Tolmarchus bahamensis** (p. 678)
  bb. Pileum black, brownish black, or very dark sooty.
    c. Back grayish.
      d. Back brownish gray; pileum black; bill smaller (exposed culmen 24.5–27.5). (Cuba.).....**Tolmarchus caudifasciatus** (p. 679)
      dd. Back grayish olive; pileum dark sooty slate; bill larger (exposed culmen 28). (Grand Cayman Island.).....**Tolmarchus caymanensis** (p. 681)
    cc. Back brownish. (Jamaica.).....**Tolmarchus jamaicensis** (p. 682)
aa. Inner webs of rectrices passing gradually into dull whitish at extreme base; tail not tipped with brownish gray or whitish.
  b. Smaller (wing 101–105.5, tail 80–85, exposed culmen 22-25, tarsus 19–21); rectrices edged conspicuously with rusty. (Haiti.)..**Tolmarchus gabbii** (p. 683)
  bb. Larger (wing 113–119, tail 90–96.5, exposed culmen 25.5–29, tarsus 22.5–24.5); rectrices not edged with rusty. (Porto Rico.).....**Tolmarchus taylori** (p. 684)

TOLMARCHUS BAHAMENSIS (Bryant).

BAHAMAN PETCHARY.

Adult male.—Pileum and hindneck dull brownish slate, the crown with a concealed patch of ocher or gallstone yellow or tawny, the lateral and posterior (underlying) portions of this patch white or pale yellow; back, scapulars, rump, and lesser wing-coverts plain brownish gray, slightly tinged with olive; upper tail-coverts darker brownish gray (sometimes dusky) with blackish shafts and margined with light rusty brown or cinnamon; tail dull black or dusky, tipped with dull white and pale grayish brown, the outer webs of rectrices narrowly edged with brownish gray, that of the lateral rectrix pale grayish brown, edged with white; inner webs of rectrices (except middle pair) with basal third (approximately) yellowish white; wings dusky, the middle coverts broadly margined with pale brownish gray (more whitish on outer web), the greater coverts and secondaries edged with pale yellowish gray or dull yellowish white (the edgings much broader and clear yellowish white or pale yellow on inner secondaries), the primary coverts and primaries narrowly edged with very pale brownish gray; loral region light gray, suffused or intermixed with dusky, the suborbital region darker, deepening into dark sooty slate or sooty blackish on upper half (or more) of auricular region; malar

[a] Gosse, Birds of Jamaica, pp. 179, 180.

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region and lower portion of auricular region grayish white or very pale gray, the first indistinctly flecked with darker; chin and throat white or grayish white, passing into very pale gray on chest, this passing into white on abdomen and pale yellowish gray on flanks, the under tail-coverts and anal region pale primrose yellow; axillars and under wing-coverts primrose yellow, faintly tinged with gray (especially toward base), the basal portion with very narrow shaft-streaks of darker grayish; inner webs of remiges broadly edged with dull yellowish white; bill black, the mandible more brownish basally; iris brown; legs and feet black; length (skins), 197–215 (208); wing, 107.5–115 (111.6) ; tail, 82–89 (86.9); exposed culmen, 24.5–27.5 (26.6); tarsus, 21–22.5 (21.7); middle toe, 15.5–17 (16.2).[a]

Adult female.—Similar to the male and not always distinguishable, but usually with the yellowish or tawny crown-patch smaller; length (skins), 201–208 (204); wing, 104.5–105 (104.8); tail, 82–84 (83); exposed culmen, 25–25.5 (25.2); tarsus, 21.5–22 (21.2); middle toe, 15.5.[b]

Bahamas (Abaco, Little Abaco, New Providence, Great Bahama, and Andros islands).

Pitangus caudifasciatus (not *Tyrannus caudifasciatus* D'Orbigny) BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 108 (New Providence I., Bahamas; habits); xi, 1866, 66 (New Providence).—ALBRECHT, Journ. für Orn., 1861, 52 (Bahamas).

Pitangus bahamensis BRYANT, Proc. Bost. Soc. N. H., ix, 1864, 279 (Bahamas; coll. H. Bryant).—CORY, Birds Bahama I., 1880, 102; Auk, iii, 1886, 233; viii, 1891, 294 (New Providence I.), 298 (Abaco), 350 (Great Bahama; Abaco); Birds West Ind., 1889, 120; Cat. West Ind. Birds, 1892, 13, 108, 127 (Great Bahama, Abaco, New Providence, and Andros islands, Bahamas).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 180 (Nassau, New Providence).—NORTHRUP, Auk, viii, 1891, 71 (Andros I.).—RIDGWAY, Auk, viii, 1891, 334 (Abaco), 335 (New Providence).—BONHOTE, Ibis, 1899, 514 (New Providence, habits); 1903, 292 (New Providence and Little Abaco; habits).—BANGS, Auk, xvii, 1890, 288 (New Providence).—RILEY, Auk, xxii, 1905, 356 (New Providence).

[*Pitangus*] *bahamensis* GRAY, Hand-list, i, 1869, 357, no. 5428.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 128.

P[*itangus*] *bahamensis* RIDGWAY, Man. N. Am. Birds, 1887, 331.

Tolmarchus bahamensis RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209.

TOLMARCHUS CAUDIFASCIATUS (D'Orbigny).

CUBAN PETCHARY.

Adult male.—Pileum, hindneck, loral, and suborbital regions, and upper half (or more) of auricular region, sooty black, the crown with a large concealed patch of cadmium yellow or tawny, the lateral and posterior portions of this patch paler yellow (sometimes white), especially the underlying portion of the feathers; back, scapulars, rump, and lesser wing-coverts plain deep mouse gray or brownish slate, usually slightly darker anteriorly, next to blackish

[a] Nine specimens. [b] Two specimens.

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of hindneck; upper tail-coverts grayish brown (more or less dark) passing into buffy brown or cinnamomeous on margins (broadly): tail dusky, tipped with dull white or pale grayish, the basal half of inner webs abruptly yellowish white or pale primrose yellow, the outer web of lateral rectrix light grayish brown with paler edge; wings dusky, the middle coverts broadly margined terminally with dull white or pale buffy gray, the greater coverts and secondaries edged (very broadly on inner secondaries) with yellowish white or pale primrose yellow, the primary coverts and primaries narrowly edged with duller whitish; malar region and entire under parts white, the chest and sides faintly shaded with pale gray; axillars and under wing-coverts pale yellow (primrose), faintly tinged with pale gray and usually with very narrow shaft-streaks of dusky; inner webs of remiges broadly edged with yellowish white or pale primrose yellow; bill, legs, and feet, black; iris, brown; length (skins), 193–214 (203); wing, 105–116.5 (108.7); tail, 81–94.5 (87.8); exposed culmen, 24–27.5 (25.7); tarsus, 20–23 (21.7); middle toe, 14.5–17 (16).[a]

Adult female.—Similar to the male and not always distinguishable, but usually with the yellow or tawny crown-patch smaller; length (skins), 193–205 (201); wing, 102–107.5 (103.9); tail, 84–88 (85.6); exposed culmen, 24–27.5 (25.6); tarsus, 21.5–23 (22); middle toe, 15–16.5 (15.7).[b]

Young.—Essentially like adults, but crown without any yellow, color of back, etc., more brownish, tip of tail pale cinnamon-brown or fawn color, and wing-coverts broadly margined with cinnamon or fawn color.

Island of Cuba (San Cristobal; Holguin; Batabano; Trinidad: Pinar del Rio; Guanajay; Guama; Guantanamo Bay; Mariel; San Diego de los Baños; Cabañas; Baracoa), including Isle of Pines (Sante Fé; Nueva Gerona; Hospitál; Jucaro; Rio Callebonito).

[a] Fifteen specimens.

[b] Four specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from eastern Cuba	107.5	87.4	26.3	21.5	15.7
Ten adult males from western Cuba	109.3	88	25.5	21.8	16.2
Six adult males from Isle of Pines	108	85.9	25.3	21.9	15.8
FEMALES.					
One adult female from eastern Cuba	107.5	87.4	26.3	21.5	15.7
Three adult females from western Cuba	109.3	88	25.5	21.8	16.2
Three adult females from Isle of Pines	108.3	86.5	24.5	21.7	16.5

The specimens from the Isle of Pines are in abraded plumage, rendering comparison with specimens from the main island unsatisfactory.

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Tyrannus caudifasciatus D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 70, pl. 12 (Cuba).—GUNDLACH, Journ. Bost. Soc. N. H., vi, 1852, 318 (Cuba); Journ. für Orn., 1861, 328 (Cuba); 1871, 293 (Cuba); 1872, 424 (Cuba; habits).—CABANIS, Journ. für Orn., 1855, 478.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307.

T[yrannus] caudifasciatus BONAPARTE, Consp. Av., i, 1850, 192, part.—CABANIS and HEINE, Mus. Hein., ii, 1859, 80 (Cuba).

Pitangus caudifasciatus (not of Sclater, 1861) GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 238; Orn. Cub., 1893, 83.—CORY, Auk, iii, 1886, 232, part (Cuba); Birds West Ind., 1889, 119 (do.); Cat. West Ind. Birds, 1892, 13, 108, part (Cuba).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 179, part (San Cristobal, Cuba).—CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 302 (near Trinidad, Cuba; habits).—BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 206 (Isle of Pines).

[*Pitangus*] *caudifasciatus* GRAY, Hand-list, i, 1869, 357, no. 5421, part (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50, part (Cuba).—CORY, List Birds West Ind., 1885, 15, part (Cuba).—SHARPE, Hand-list, iii, 1901, 128.

Tolmarchus caudifasciatus RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209.

TOLMARCHUS CAYMANENSIS (Nicoll).

GRAND CAYMAN PETCHARY.

Similar to *T. caudifasciatus* but color of back more olivaceous, pileum sooty slate color instead of black, and bill larger; similar also to *T. jamaicensis*, but bill larger, dusky of head much lighter, color of back, etc., grayer and with a decided olive tinge.

Adult male.—Pileum dark sooty slate, the crown with a large concealed patch of saffron yellow underlaid laterally and posteriorly by white; hindneck dusky grayish brown; back, scapulars, rump, and lesser wing-coverts plain dark smoke gray, slightly tinged with olive; upper tail-coverts darker, margined with rusty brownish; tail dusky, rather broadly tipped with pale grayish brown, passing into dull white terminally, the outer web of lateral rectrix pale grayish brown, the inner webs of all (except middle pair) with basal third, or more, abruptly yellowish white; wings dusky, the middle coverts broadly margined terminally with pale brownish gray and dull whitish, the greater coverts edged with pale brownish gray, secondaries edged with grayish white or yellowish white (more broadly on inner secondaries), the primary coverts and primaries very narrowly edged with pale grayish; loral region pale grayish anteriorly, more dusky posteriorly; suborbital region and auricular region dark sooty brown or dusky, like pileum; malar region, lower edge of auricular region, and under parts white, the chest and sides very faintly tinged with pale gray, passing into pale primrose yellow on flanks, lower abdomen, anal region, and under tail-coverts; axillars and under wing-coverts pale primrose yellow; inner webs of remiges broadly edged with yellowish white; bill black, the mandible more brownish basally;

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legs and feet brownish black; length (skin), 210; wing, 103; tail, 85.5; exposed culmen, 28; tarsus, 21.5; middle toe, 16.[a]

Island of Grand Cayman, Greater Antilles (south of Cuba); Cayman Brac?

Pitangus caudifasciatus (not *Tyrannus caudifasciatus* D'Orbigny) CORY, Auk, iii, 1886, 502 (Grand Cayman); (?) vi, 1889, 32 (Cayman Brac); Cat. West Ind. Birds, 1892, 108, part (Grand Cayman).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 179, part (Grand Cayman).

Pitangus caymanensis NICOLL, Ibis, 8th ser., iv, Oct., 1904, 582 (island of Grand Cayman, Greater Antilles).

Tolmarchus caymanensis RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 12, 1905, 209.

TOLMARCHUS JAMAICENSIS (Chapman).

JAMAICAN PETCHARY.

Similar to *T. caudifasciatus*, but color of back, etc., browner and averaging darker, crown patch sulphur to lemon yellow instead of orange-yellow to tawny, and averaging smaller, with larger bill.

Adult male.—Pileum and hindneck, together with loral, suborbital, and greater part of auricular regions, sooty black, the crown with a large concealed patch of clear lemon, canary, or sulphur yellow; back, scapulars, rump, and lesser wing-coverts plain deep grayish brown (dark hair or broccoli brown), paler and grayer posteriorly; upper tail-coverts darker grayish brown, more or less broadly margined with rusty brown (sometimes nearly chestnut); tail dull black, tipped with dull white (this usually suffused with pale grayish brown), the inner webs of rectrices (except middle pair) with basal third or more abruptly white or pale primrose yellow, the outer web of lateral rectrix pale brownish gray edged with white; wings dusky, the middle coverts broadly margined terminally with pale brownish gray or yellowish white, the greater coverts and secondaries edged and terminally margined with the same, the edgings much broader and distinctly yellowish white on inner secondaries; primary coverts and primaries very narrowly edged with very pale brownish gray or grayish white; malar region and under parts white, the chest and sides very faintly tinged with pale brownish gray, the under tail-coverts frequently pale (primrose) yellow, the malar region usually more or less flecked with dusky; axillars and under wing-coverts pale (primrose) yellow; inner webs of remiges broadly edged with dull yellowish white; bill, legs, and feet black; iris brown; length (skins), 191–203 (199); wing, 105–112.5 (108); tail, 82–90.5 (85.9); exposed culmen, 24–26.5 (25.3); tarsus, 21.5–22.5 (21.9); middle toe, 15–17 (15.8).[b]

[a] One specimen. [b] Six specimens.

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Adult female.—Similar to the male and not always distinguishable, but usually with the yellow crown-patch smaller; length (skins), 198–211 (203); wing, 108–108.5 (108.3); tail, 85–89 (86.5); exposed culmen 23.5–25 (24.5); tarsus, 21.5–22 (21.7); middle toe, 16.5.[a]

Young.—Essentially like adults, but black of head much duller and more brownish, the crown without any yellow; color of back, etc., browner; middle and greater wing-coverts conspicuously margined with cinnamon-buff, and tip of tail tinged with the same.

Island of Jamaica (Kingston; Spanishtown; Moneague; Mandeville; Port Antonio; Priestmans River).

Tyrannus caudifasciatus (not of D'Orbigny) Gosse, Birds Jamaica, 1847, 177; Illustr. Birds Jam., 1849, pl. 44.—March, Proc. Ac. Nat. Sci. Philad., 1863, 288 (Jamaica).

Pitangus caudifasciatus Sclater, Proc. Zool. Soc. Lond., 1861, 76 (Jamaica; crit.); Cat. Am. Birds, 1862, 222 (do.); Cat. Birds Brit. Mus., xiv, 1888, 179, part (Moneague, Jamaica).—Albrecht, Journ. für Orn., 1862, 199 (Jamaica).—Salvin, Cat. Strickland Coll., 1882, 311 (Jamaica).—Cory, Auk, iii, 1886, 232, part (Jamaica); Birds West Ind., 1889, 119, part (Jamaica); Cat. West Ind. Birds, 1892, 13, 108, part (Jamaica).—Scott, Auk, x, 1893, 177 (Jamaica, chiefly below 1,500 ft.).—Nicoll, Ibis, 1904, 577 (Jamaica).

[*Pitangus*] *caudifasciatus* Gray, Hand-list, i, 1869, 357, no. 5421, part (Jamaica).—Sclater and Salvin, Nom. Av. Neotr., 1873, 50, part (Jamaica).—Cory, List Birds West Ind., 1885, 15, part (Jamaica).

P[*itangus*] *caudifasciatus* Newton (A. and E.), Handb. Jamaica, 1881, 107.

Pitangus jamaicensis Chapman, Bull. Am. Mus. N. H., iv, no. 1, Dec., 1892, 303 (Moneague, Jamaica; coll. Am. Mus. Nat. Hist.).

[*Pitangus*] *jamaicensis* Sharpe, Hand-list, iii, 1901, 128.

Tolmarchus jamaicensis Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209.

TOLMARCHUS GABBII (Lawrence).

HAITIAN PETCHARY.

Similar to *T. taylori*, but decidedly smaller, wing-edgings broader and cinnamomeous, rectrices edged (on both webs) with cinnamon-rufous, and inner webs of secondaries edged with buff or cinnamon-buff.

Adult male.—Pileum very dark sooty brown or brownish black, the crown with a large concealed patch of bright yellow (lemon to cadmium) underlaid laterally and posteriorly by white; hindneck similar in color to pileum, but less blackish; back, rump, scapulars, and lesser wing-coverts plain sepia brown (paler on rump, darker on upper back); upper tail-coverts darker, broadly margined with rusty brown or chestnut; tail deep to dark grayish brown or sepia, the outer webs of rectrices edged with cinnamon, the inner webs less distinctly edged with paler cinnamon; wings dark grayish brown,

[a] Three specimens.

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the posterior lesser coverts and middle coverts margined with cinnamon or rusty, the greater coverts and remiges broadly edged with the same, the inner secondaries edged with dull yellowish white; loral and suborbital regions dusky grayish; auricular region very dark sooty brown or brownish black, like pileum; malar region grayish white, flecked with dusky; under parts white, the chin and throat less purely white, the chest and sides strongly tinged with pale buffy grayish; axillars and under wing-coverts pale (primrose) yellow, faintly tinged with gray, especially toward base; inner webs of remiges broadly edged with pale cinnamon or cinnamon-buff, becoming more yellowish on primaries; bill black, the mandible more brownish basally; legs and feet brownish black; length (skins), 191–206 (196); wing, 101–105.5 (103.8); tail, 80–85 (81.3); exposed culmen, 22–25 (24); tarsus, 19–21 (20.3); middle toe, 14.5–15.5 (15.1).[a]

Island of Haiti (Port au Prince and Le Coup, Haiti; Hato Viejo, Magua, and Honduras, Santo Domingo).

Pitangus gabbii LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., xi, Dec., 1876, 288 (Viejo. Province Santiago, Santo Domingo; coll. G. N. Lawrence).—CORY, Bull. Nutt. Orn. Club, vi, 1881, 153 (int. Haiti); Birds Haiti and San Dom., 1885. 76, pl. (22), fig. 2; Auk, iii, 1886, 233; xii, 1895, 279 (Santo Domingo); Birds West Ind., 1889, 120; Cat. West Ind. Birds, 1892, 13, 108, 131.—CHERRIE. Contr. Orn. San Dom., 1896, 17 (Honduras, Santo Domingo).

[*Pitangus*] *gabbii* CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 128.

Pitangus gabbi SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 180.

Tolmarchus gabbi RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209.

TOLMARCHUS TAYLORI (Sclater).

PORTO RICAN PETCHARY.

Adult male.—Pileum very dark sooty brown or brownish black, the crown with a large concealed patch of bright yellow (varying from lemon to cadmium orange, sometimes tinged with tawny) underlaid laterally and posteriorly by white; hindneck similar in color to pileum, but more brown; back, scapulars, rump, and lesser wing-coverts plain grayish brown (varying from deep hair brown to warm sepia), paler on rump, darker on upper back; upper tail-coverts darker, margined with rusty brown or chestnut; tail dark grayish brown, paler terminally and on exterior rectrices (especially the lateral pair), the outer webs of rectrices edged with pale cinnamomeous or pale grayish brown, the inner webs becoming dull yellowish white basally; wings dark grayish brown or dusky, the middle coverts margined terminally with pale buffy grayish (sometimes whitish at tip), the greater coverts edged with pale cinnamon-gray or cinna-

[a] Six specimens. (No females of this species seen by me.)

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momeous, the secondaries edged with pale cinnamon-buff or pale brownish yellow (the edgings much broader and white or yellowish white on inner secondaries), the primary coverts and primaries narrowly edged with pale cinnamon or buffy; loral region dusky, more grayish anteriorly; suborbital region and upper half (approximately) of auricular region very dark sooty brown or brownish black; malar region and lower portion of auricular region grayish white, the former more or less distinctly barred or transversely flecked with dusky; chin and throat dull white; chest very pale gray, buffy gray, or grayish buff; rest of under parts white, the sides and flanks more grayish; axillars and under wing-coverts pale grayish, more or less tinged with pale yellow; inner webs of remiges broadly edged with pale straw yellowish; bill black, or brownish black, the mandible more brownish basally; legs and feet brownish black; length (skins), 208–216 (213); wing, 113.5–119 (116); tail, 90–96.5 (93.3); exposed culmen, 25.5–29 (27.7); tarsus, 22.5–24 (23.3); middle toe, 16.5–18 (17.5).[a]

Adult female.—Similar to the male and not always distinguishable, but yellow crown-patch usually smaller; length (skins), 203–225 (217); wing, 113–116.5 (114.9); tail, 91.5–96 (93.1); exposed culmen, 25.5–27.5 (26.4); tarsus, 22.5–24.5 (23.5); middle toe, 16.5–18 (17).[b]

Island of Porto Rico (Arecibo; Pueblo Viejo; Caguas; Hucaries; Utuado; El Yunque; Vieques Island).

Pitangus taylori Sclater, Ibis, Apr., 1864, 169 (Porto Rico; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 180.—Taylor, Ibis, 1864, 169.—Cory, Auk, iii, 1886, 232; Birds West Ind., 1889, 119; Cat. West Ind. Birds, 1892, 13, 108, 132.—Bowdish, Auk, xx, 1903, 10 (habits).

[*Pitangus*] *taylori* Gray, Hand-list, i, 1869, 357, no. 5427.—Sclater and Salvin, Nom. Av. Neotr., 1873, 50.—Cory, List Birds West Ind., 1885, 15.—Sharpe, Hand-list, iii, 1901, 128.

Tyrannus taylori Bryant, Proc. Bost. Soc. N. H., x, 1866, 249.—Sundevall, Œfv. K. Vet.-Akad. Förh., 1869, 598.—Gundlach, Journ. für Orn., 1874, 311; 1878, 159; Anal. Soc. Esp. Hist. Nat., vii, 1878, 193.

Tolmarchus taylori Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209.

Genus TYRANNUS Lacépède.

Tyrannus Lacépède, Tabl. Oiseaux, 1799, 5. (Type, *Le Tiran* Buffon, = *Lanius tyrannus* Linnæus.)

Tirannus (emendation) Fischer de Waldheim, Nationalmus. Nat. zu Paris, ii, 1803, 166.

Drymonax Gloger, Froriep's Notizen, xvi, 1827, 278. (Type, *Lanius tyrannus* Linnæus.)

Laphyctes Reichenbach, Av. Syst. Nat., 1850, pl. 66. (Type, *Tyrannus melancholicus* Vieillot.)

Satellus Reichenbach, Av. Syst. Nat., 1850, pl. 66. (Type, *Muscicapa satelles* Lichtenstein, manuscript, = *Tyrannus vociferans* Swainson.)

[a] Six specimens. [b] Four specimens.

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Melittarchus CABANIS, Journ. für Orn., Nov., 1855, 477. (Type, *Tyrannus magnirostris* D'Orbigny, = *T. cubensis* Richmond.)

(?)*Dioctes* REICHENBACH, Av. Syst. Nat., 1850, pl. 66, fig. (Type, *D. pyrrholæma* Reichenbach, = *Lanius tyrannus* Linnæus?) [No description.]

Medium-sized to very large Tyrannidæ (wing about 100–140 mm.) with tarsus decidedly shorter than middle toe with claw, tips of outermost primaries more or less attenuated, tail less than three-fourths to nearly seven-eighths as long as wing and never deeply forked, and adults with a concealed crown-patch of yellow, orange, or orange-red.

Bill very variable in relative size, sometimes as long as head, sometimes much shorter, its width at anterior end of nostrils sometimes (*T. crassirostris*) equal to half the length of exposed culmen, usually much less, but always greater than its depth at same point; lateral outlines of bill usually straight or very nearly so, converging uniformly to the nonconstricted tip, sometimes slightly convex or inflated anterior to middle portion, the tip of maxilla slightly constricted; exposed culmen shorter than tarsus to very much longer, indistinctly ridged, usually straight or very nearly so to near tip, where rather abruptly and strongly decurved, the tip of maxilla strongly uncinate (in *T. crassirostris* the culmen obviously convex for whole length); gonys less than twice to more than twice as long as mandibular rami, nearly straight or (in *T. crassirostris*) obviously convex, sometimes (in *T. cubensis*, *T. dominicensis*, and *T. melancholicus*) with a more or less distinct median ridge; maxillary tomium nearly straight for most of its length, but more or less concave and decurved just before the distinct subterminal notch; mandibular tomium distinctly (but sometimes minutely) excised subterminally, the tip of mandible acuminate. Nostril at least partly exposed, rather small, nearly circular, in lower anterior portion of rather broad nasal fossæ. Rictal bristles well developed; feathers of chin and frontal antiæ with distinct, slender bristly points, the former recurved, the latter arching over nostrils; malar antiæ with distinct antrorse or semierect bristles. Wing long and pointed, the longest primaries exceeding distal secondaries by less than one-fourth to a little more than one-third the total length of wing; eighth and ninth, seventh, eighth and ninth, sixth, seventh, eighth and ninth, fifth, sixth, seventh, eighth and ninth, or seventh, eighth, ninth, and tenth primaries longest and nearly equal, the tenth (outermost) always (?) longer than fourth, sometimes equal to longest; all these longer primaries attenuated terminally, especially in males. Tail less than three-fourths to nearly seven-eighths as long as wing, slightly rounded, even, or more or less deeply emarginate (almost forked in *T. albogularis*). Tarsus decidedly shorter than middle toe with claw (but decidedly longer than toe without claw), a little more than one-seventh to less than one-sixth as long as wing, stout, its scutellation typically exaspidean, the acrotarsial scutella distinct and usually occupying the entire outer

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side of the tarsus;[a] basal phalanx of middle toe united to outer toe by about half to decidedly more than half its length, to inner toe for less (sometimes much less) than half its length; outer toe, without claw, reaching to or slightly beyond middle of subterminal phalanx of middle toe, the inner toe more or less distinctly (never conspicuously) shorter; hallux shorter than inner toe, not conspicuously stouter, its claw shorter than the digit; all the claws moderate in size, curvature, etc.

Coloration.—(*a*) Above black (the back and scapulars slaty), wings with narrow white edgings and tail tipped with white; under parts white (*T. tyrannus*). (*b*) Above gray, or grayish brown with dusky head, the wings with broad paler edgings; under parts grayish white (*T. dominicensis*, *T. cubensis*). (*c*) Above grayish brown or grayish olive; under parts grayish white anteriorly, pale yellow posteriorly. (*T. crassirostris*). (*d*) Above gray with blackish tail and grayish brown wings, the back and scapulars olive-greenish or tinged with same; under parts light to bright yellow, throat or chin white, chest usually gray (*T. vociferans*, *T. verticalis*, *T. melancholicus*, *T. apolites*, *T. albogularis*, *T. niveigularis*).

Nidification.—Nest open above (cup- or bowl-shaped), placed in trees, varying in composition according to species and locality. Eggs white or more or less deeply buffy, spotted with reddish brown, black, lavender, etc.

Range.—The whole of temperate and tropical America, including West Indies but excluding Galapagos Archipelago. (Ten species, not counting subspecies.)

The genus *Tyrannus* as characterized above is a decidedly heterogeneous group and, I feel quite sure, includes too many forms and therefore requires restriction; but I have not been able to satisfactorily subdivide it, partly for the reason that I have not been able to examine two of the species (*T. apolites* and *T. niveigularis*), each of which would of course be an important factor in any satisfactory subdivision that might be made. When all the species can be brought together and carefully studied, I believe that three genera can be characterized, as indicated in the following "key:"

KEY TO THE SPECIES AND SUBSPECIES OF TYRANNUS.

a. Tail even or slightly rounded, less than three-fourths as long as wing; exposed culmen shorter than tarsus, the latter more than one-seventh as long as wing.

b. Tenth (outermost) primary as long as or longer than seventh; under parts white, upper parts blackish, the tail tipped with white. (*Tyrannus.*) (Temperate North America, south in winter to Bolivia and Peru.). **Tyrannus tyrannus** (p.689)

bb. Tenth (outermost) primary shorter than seventh (sometimes shorter than fifth); under parts mostly yellow, upper parts gray and olive, the tail black or dusky but not tipped with white. (*Satellus.*)

[a] The only exceptions noted are in *T. vociferans*, *T. verticalis* and *T. dominicensis*, in specimens examined of which there is a more or less distinct separate series of small scutella along the upper posterior margin of the outer side.

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c. Crown-patch reddish orange or orange-red and not encircled by dusky; outer web of lateral rectrix not black; no distinct blackish auricular patch; throat not pure white.

d. Tenth (outermost) primary shorter than fifth; chest and foreneck deep gray, the pileum, etc., slate-gray; outer web of lateral rectrix merely edged with white. (Southwestern United States and northern Mexico, south to Guatemala in winter.).....**Tyrannus vociferans** (p.694)

dd. Tenth (outermost) primary longer than fifth; chest and foreneck pale gray, the pileum, etc., light gray; outer web of lateral rectrix entirely white, except part of terminal portion. (Western United States and British Columbia; south to Guatemala in winter.)....**Tyrannus verticalis** (p.697)

cc. Crown-patch lemon or canary yellow, encircled by dusky; outer web of lateral rectrix black; whole throat pure white. (Western Ecuador.)

Tyrannus niveigularis (extralimital)[a]

aa. Tail emarginate or forked; exposed culmen longer than tarsus, the latter nearly to slightly more than one-sixth as long as wing.

b. Tail six-sevenths to seven-eighths as long as wing, more deeply emarginate, or forked; abdomen deep yellow. (*Laphyctes.*)

c. Tail deeply emarginate, sometimes almost forked, nearly to quite seven-eighths as long as wing; chest and foreneck olive-yellow. (Interior of Brazil to Lower Amazon.).....**Tyrannus albogularis** (extralimital)[b]

cc. Tail shallowly or moderately emarginate, less than six-sevenths as long as wing; chest yellowish olive or olive-greenish, foreneck gray.

d. Pileum blackish; abdomen light yellow; smaller (wing not more than 107 mm.). (Brazil?).....**Tyrannus apolites** (extralimital)[c]

dd. Pileum gray; abdomen deep yellow; larger (wing usually much more than 107 mm.). (*Tyrannus melancholicus.*)

e. Darker, the pileum slate-gray, back deep greenish olive, throat deeper gray, becoming whitish only on chin. (Paraguay, Argentina, and southern Brazil to Peru and western Ecuador.)

Tyrannus melancholicus melancholicus (extralimital)[d]

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[a] *Tyrannus niveigularis* Sclater, Proc. Zool. Soc. Lond., 1860, 281 (Babahoyo, w. Ecuador; coll. P. L. Sclater); 1880, 29, pl. 3 (crit.); Cat. Birds Brit. Mus., xiv, 1888, 270; Ridgway, Proc. U. S. Nat. Mus., i, 1879, 479 (monogr.).

[b] *Tyrannus albogularis* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 465 (northern forest district of Brazil); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 276; Chapman, Auk, vii, 1890, 271 (Santarem, lower Amazon; crit.).—*Tyrannus albigularis* Finsch, Proc. Zool. Soc. Lond., 1870, 572, in text (crit.); Ridgway, Proc. U. S. Nat. Mus., i, 1879, 477 (monogr.).—*Tyrannus niveigularis* (not of Sclater) Allen, Bull. Essex Inst., viii, 1876, 79 (Santarem, lower Amazon).

[c] *L[aphyctes] apolites* Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 77 (locality unknown; coll. Heine Mus.).—[*Tyrannus*] *apolites* Gray, Hand-list, i, 1869, 364, no. 5553.—*Tyrannus apolites* Ridgway, Proc. U. S. Nat. Mus., i, 1879, 478 (monogr.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 276 (s. e. Brazil?).

[d] *Tyrannus melancholicus* Vieillot, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 48 (Paraguay; based on *Suiriri guazu* Azara, Apunt. Parag., ii, 152); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 273, part.—[*Tyrannus melancholicus*] var. *melancholicus* Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 315.—[*Tyrannus melancholicus*] *α. melancholicus* Ridgway, Proc. U. S. Nat. Mus., i, 1879, 473 (crit.; synonymy).—*L[aphyctes] melancholicus* Cabanis and Heine, Mus. Hein., ii, 1856, 76 (excl. syn. *albogularis* Burmeister).—*M[uscicapa] despotes* Lichtenstein, Verz. Doubl., 1823, 55 (Bahia, Brazil).—*Muscicapa furcata* Spix, Av. Bras., ii, 1825, 15, pl. 19.—*Tyrannus furcatus* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 884.—(?) *Tyrannus crudelis* Swainson, Quart. Journ. Sci., xx, 1826, 275 (Brazil).

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ee. Paler, the pileum ash gray, back clear yellowish olive-green or a mixture of this color and gray, throat paler gray, becoming white on chin and upper throat.

f. Smaller (wing averaging 119.5 in male, 111.1 in female, tail 98.9 in male, 90.3 in female); chest deeper yellowish olive; tail dusky grayish brown or blackish. (Lower Amazon Valley to southern and western Mexico; islands of Grenada, Tobago, and Trinidad.)

Tyrannus melancholicus satrapa (p. 700)

ff. Larger (wing averaging 126.8 in male, 119.2 in female; tail 104.3 in male, 94.6 in female); chest paler yellowish olive or olive-yellow, throat more purely white; tail paler grayish brown. (Northeastern Mexico and southern Texas.) ..... **Tyrannus melancholicus couchii** (p. 705)

bb. Tail but little more than three-fourths as long as wing, slightly emarginate; abdomen white or very pale yellow.

c. Exposed culmen much longer than middle toe with claw; width of bill at nostrils equal to not more than half the distance from nostril to tip of maxilla; tenth (outermost) primary shorter than fifth; abdomen white. (*Melittarchus.*)

d. Back and pileum gray; smaller (wing not more than 122, usually much less; exposed culmen usually much less than 31; tarsus not more than 20). (*Tyrannus dominicensis.*)

e. Smaller, with relatively smaller bill (adult male averaging wing 116.2, tail 90.3, exposed culmen 26.1, tarsus 18.5; adult female, wing 113.2, tail 85.2, exposed culmen 25.3, tarsus 18.7); gray of upper parts paler; axillars and under wing-coverts more strongly yellowish. (Coast of Georgia, South Carolina, and Florida, Bahamas. Greater Antilles, including smaller islands of St. Johns, St. Thomas, St. Martin, and Anegada, and more northern Lesser Antilles; Dutch West Indies; coast of mainland, from Yucatan to Venezuela.) .. **Tyrannus dominicensis dominicensis** (p. 706)

ee. Larger, with relatively larger bill (adult male averaging wing 118.1, tail 94.7, exposed culmen 29, tarsus 18.9; adult female, wing 114.3, tail 90, exposed culmen 29, tarsus 19); gray of upper parts darker; axillars and under wing-coverts more faintly yellowish. (More southern Lesser Antilles: Trinidad.) ..... **Tyrannus dominicensis vorax** (p. 710)

dd. Back grayish brown, pileum dark sooty brown or blackish; larger (wing not less than 123.5, usually much more; exposed culmen usually much more, never less, than 31; tarsus 21 or more). (Cuba, including Isle of Pines; more southern Bahama Islands.) ..... **Tyrannus cubensis** (p. 711)

cc. Exposed culmen only slightly longer than middle toe with claw; width of bill at nostrils equal to more than half the distance from nostril to tip of maxilla; tenth primary longer than fifth; abdomen pale yellow. (*Semnarchus.*)[a] (Western Mexico.) ..... **Tyrannus crassirostris** (p. 712)

TYRANNUS TYRANNUS (Linnæus).

KINGBIRD.

Adult male.—Pileum and sides of head (except malar region) black (slightly glossy), the crown with a large concealed patch of orange or orange-red (varying from orpiment orange to scarlet), sometimes intermixed with yellow on margins, underlaid laterally and posteriorly

[a] Type, *Tyrannus crassirostris* Swainson. (Σεμνός, solemn; ἀρχός, a ruler, chief, or leader.)

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by white; hindneck slaty black or blackish slate, passing into plain slate color or blackish slate on sides of neck, back, rump, scapulars, and lesser wing-coverts, the feathers of lower rump more or less distinctly margined terminally with pale gray or grayish white; upper tail-coverts black, margined, more or less broadly, with white; tail black, abruptly tipped with white, the lateral rectrices margined with white for some distance from tip, especially the exterior one; wings dusky, the middle and greater coverts and secondaries edged with white, the primary coverts and primaries more narrowly edged with pale gray; malar region and under parts white, the chest shaded, more or less strongly, with gray, the sides of chest with a distinct gray patch; axillars light gray margined terminally with white; under wing-coverts white or yellowish white terminally, pale brownish gray basally, those along edge of wing dusky broadly margined with white; bill black, the mandible slightly brownish basally; iris brown; legs and feet brownish black; length (skins), 177–214 (182); wing, 111–125 (118.7); tail, 75.5–90 (84.8); exposed culmen, 16.5–19.5 (17.6); tarsus, 17.5–19.5 (18.6); middle toe, 13.5–15 (14.2).[a]

Adult female.—Similar to the male, but orange or orange-red crown-patch smaller and tips of longer primaries less attenuated; length (skins), 183–208 (190); wing, 109.5–117.5 (114); tail, 72–83 (79.5); exposed culmen, 16.5–18.5 (17.5); tarsus, 16.5–19.5 (18.3); middle toe, 12.5–15 (14.3).[b]

Young.—Essentially, like adults, but color of upper parts dark sooty gray or brownish slate, darker on head, the crown without orange or

[a] Twenty specimens (none from Florida included).

[b] Nine specimens (none from Florida included).

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic States (except Florida)	117.5	83.6	17.3	18.2	14.1
Five adult males from Mississippi Valley	119.7	87	17.9	18.9	14.5
Five adult males from western United States	119.8	85.2	18.2	18.9	14.2
Seven adult males from Florida	118.5	84.1	19.5	18.4	14.1
FEMALES.					
Five adult females from Atlantic States (except Florida)	108.5	75	18.5	19	15
Two adult females from Mississippi Valley	112.7	80.5	17.6	17.9	14
Two adult females from western United States	115	79	17.5	18.5	14.8
Four adult females from Florida	116.3	77.5	17.3	19	14.8
	113.1	80.6	19	18.9	14.1

The difference in size of the bill between Florida breeding birds and those from other parts of the country is not sufficiently constant nor great enough, in the absence of other characters, to justify subspecific separation of the former. Such, at least, is the writer's opinion.

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orange-red; paler edgings, tips, etc., pale brown or pale brownish buffy, instead of white or grayish white; tip of tail partly pale buffy brown.

Temperate North America, except parts of the arid region (where distributed locally and irregularly),[a] north to Maine; New Brunswick, Nova Scotia, Prince Edward Island, Magdalene Islands, Quebec, (Point de Monts), southern end of Hudson Bay (Moose Factory), northern Ontario (Parry Sound; Muskoka), Saskatchewan (Grand Rapids; Chemawawin), Athabasca, Mackenzie (Fort Simpson), northern Montana, and Idaho (Fort Sherman) and southern British Columbia (Vancouver Island, etc.); breeding southward to southern Florida and to the Gulf coast from Florida to Texas; in winter migrating southward to Cuba, Haiti, Porto Rico, Swan Island, Old Providence Island, and through eastern Mexico, nearly the whole of Central America, and the greater part of South America (Colombia, Ecuador, Peru, and Amazon Valley) as far as southern Bolivia (Caiza). *Vera Cruz:* Playa Vicente. *Oaxaca:* Tapana; Ventosa. *Yucatan:* Tizimin; Buctzotz; Cozumel Island. *British Honduras:* Saddle Cay; Half Moon Cay. *Guatemala:* Yzabal; Retalhuleu. *Honduras:* Omoa; San Pedro; Truxillo; Ruatan Island. *Nicaragua:* Greytown; Rio Escondido. *Panama:* Lion Hill, Paraiso, and Frijole stations, Panama Railway; San Miguel and Saboga islands, Bay of Panama. (Accidental in southwestern Greenland.)

[*Lanius*] *tyrannus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 94 (based on *Muscicapa corona rubra* Catesby, Carolina, i, 55, pl. 55; *Tyrannus* Brisson, Orn., ii, 391); ed. 12, i, 1766, 136.—LATHAM, Index Orn., i, 1790, 81.

Muscicapa tyrannus WILSON, Am. Orn., i, 1808, 66, pl. 13, fig. 1.—BONAPARTE, Synopsis Birds U. S., 1828, 66.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 265.—AUDUBON, Orn. Biog., i, 1831, 453; v, 1839, 420, pl. 79; Synopsis, 1839, 40; Birds Am., oct. ed., i, 1840, 204, pl. 56.

T[*yrannus*] *tyrannus* (not *Tyrannus tyrannus* D'Orbigny, 1839) JORDAN, Man. Vertebr. E. N. Am., 4th ed., 1884, 96.—RIDGWAY, Man. N. Am. Birds, 1887, 328.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 513.

Tyrannus tyrannus AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 444.—CORY, Auk, iii, 1886, 245; iv, 1887, 180 (Old Providence I., Caribbean Sea); Birds West Ind., 1889, 132 (Cuba; Santo Domingo; Porto Rico); Cat. West Ind. Birds, 1892, 108 (do.).—COOKE, Bird Migr. Miss. Val., 1888, 142–147.—RIDGWAY, Proc. U. S. Nat. Mus., x, 1888, 576 (Swan I., Caribbean Sea, Mar.); Orn. Illinois, i, 1889, 343.—CHAPMAN, Auk, v, 1888, 272 (Gainesville, Florida, breeding).—SCOTT, Auk, vi, 1889, 318 (Tarpon Springs, Florida, breeding); ix, 1892, 213 (Caloosahatchie R., Florida, breeding).—BRITTAIN and COX, Auk, vi, 1889, 117 (Restigouche Valley, New Brunswick, rare).—BISHOP, Auk, vi, 1889, 147 (Magdalen Islands).—MORTIMER, Auk, vii, 1890, 340 (Orange Co., Florida; habits).—MERRIAM, North Am. Fauna, no. 5, 1891, 98 (Snake R., Cedar Creek, Birch Creek, etc., Idaho, breeding).—

[a] According to Major Bendire (Life Hist. N. Am. Birds, ii, 1895, 236) "it has not yet been observed in northwestern Texas, New Mexico, or Arizona; and in California it can only be considered as a straggler."

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RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Rio Escondido, Nicaragua, Sept.).—DWIGHT, Auk, x, 1893, 9 (Prince Edward I., common).—BERLEPSCH and STOLZMAN, Proc. Zool. Soc. Lond., 1893, 381 (Lima, Peru).—FISHER (A. K.), North Am. Fauna, no. 7, 1893, 59 (Olancho, near s. end of Owens Lake, s. e. California, 1 spec., June 29).—NUTTING, Bull. Labr. N. H. State Univ. Iowa, ii, 1893, 271 (Grand Rapids and Chemawawin, lower Saskatchewan, common).—GUNDLACH, Orn. Cub., 1893, 82.—RICHMOND and KNOWLTON, Auk, xi, 1894, 304 (south-centr. Montana, common).—WAYNE, Auk, xii, 1895, 365 (Wacissa R., n. w. Florida, breeding).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 236, pl. 1, figs. 14, 15 (eggs).—NEHRLING, Our Native Birds, ii, 1896, 338, pl. 30, fig. 3.—DAWSON, Auk, xiv, 1897, 176 (Okanogan Co., Washington).—MERRILL, Auk, xiv, 1897, 355 (Fort Sherman, n. w. Idaho, common).—GRINNELL, Pub. 2, Pasadena Ac. Sci., 1898, 29 (Santa Monica, Los Angeles Co., California, 1 spec., Aug. 31, 1895).—CARROLL, Auk, xvii, 1900, 345 (Refugio Co., Texas, breeding).—BANGS, Auk, xviii, 1901, 30 (San Miguel I., Bay of Panama, Apr. 27).—FLEMING, Auk, xviii, 1901, 39 (Parry Sound and Muskoka, n. w. Ontario, abundant).—CARY, Auk, xviii, 1901, 234 (Beaver Creek, Black Hills, Wyoming, common).—RATHBUN (S. F.), Auk, xix, 1902, 135 (Seattle, Washington, breeding).—COOMBS, Auk, xix, 1902, 203 (St. Mary Parish, Louisiana, breeding).—PREBLE, North Am. Fauna, no. 22, 1902, 113 (Moose Factory, 1 spec., July 11).—BAILEY (Florence M.), Handb. Birds W. U. S., 1892, 247, fig. 324; Auk, xxi, 1904, 446 (bet. La Cuesta and Sena, and at Ribera, San Miguel Co., New Mexico, June, July).—SNODGRASS, Auk, xx, 1903, 206 (centr. Washington, breeding abundantly); xxi, 1904, 228 (Whitman, Franklin, Yakima, Wallawalla, Columbia, and Garfield counties, Washington; common).—WILLIAMS (R. W., jr.), Auk, xxi, 1904, 456 (Leon Co., Florida, summer resident).—ALLISON, Auk, xxi, 1904, 478 (West Baton Rouge, Louisiana, summer).—SCHALOW, Vögel der Arktis, 1904, 236 (s. w. Greenland, 1 spec., Sept., 1900).—STOCKARD, Auk, xxii, 1905, 157 (Mississippi, breeding).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 276 (Bonda, etc., Santa Marta, Colombia, Sept.).

[*Tyrannus*] *tyrannus* SHARPE, Hand-list, iii, 1901, 148.

T[*yrannus*] *tyrannus tyrannus* BANGS, Auk, xv, Apr., 1898, 178, in text.

Tyrannus tyrannus tyrannus GRINNELL (J.), Check List Calif. Birds, 1902, 42.—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 153 (San Miguel and Saboga islands, Bay of Panama, Mar., Apr.)

[*Lanius tyrannus*] *γ. carolinensis* GMELIN, Syst. Nat., i, pt. i, 1788, 302 (based on *Gobe-mouche de la Caroline* Daubenton, Pl. Enl., pl. 676).

Tyrannus carolinensis TEMMINCK, Tabl. Méth., 1836, 24.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 171; Cat. N. Am. Birds, 1859, no. 124.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 167 (Oregon and Washington; abt. in more open portions).—BLAKISTON, Ibis, 1862, 3 (Forks Saskatchewan and Saskatchewan Plains); 1863, 57 (Fort Carlton and Mackenzie R.).—LORD, Proc. Roy. Art. Inst. Woolwich, 1864, 113 (British Columbia).—LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 183 (Greytown, Nicaragua); Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Tapana, Oaxaca, May).—COOPER, Orn. Cal., i, 1870, 311 (Columbia R., abundant).—HOLDEN and AIKEN, Proc. Bost. Soc. N. H., 1872, 205 (Colorado; Wyoming).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 179 (Utah; Wyoming).—MERRIAM, Rep. U. S. Geol. Survey, 1872, 689 (Idaho); Bull. Nutt. Orn. Club, vii, 1882, 236 (Pointe de Monts, Quebec, not rare).—COUES, Check List, 1873, no. 242; 2d ed. 1882, no. 368; Birds North-West, 1874, 235.—RIDGWAY, Proc. Essex Inst., vi, 1874, 184 (Colorado); vii, 1875, 17 (Truckee Valley, w. Nevada), 30 (Salt Lake City, Utah), 33 (Parleys

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Park, Utah); Orn. 40th Parallel, 1877, 532 (Nevada and Utah); Proc. U. S. Nat. Mus., i, 1879, 471 (monogr.); Nom. N. Am. Birds, 1881, no. 304.—GENTRY, Proc. Ac. Nat. Sci. Phila., 1874, 103 (habits).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 316, pl. 43, fig. 4.—HENSHAW, Zool. Expl. W. 100th Merid., 1875, 341 (Denver, Colorado; Provo, Utah, common).—BENDIRE, Proc. Bost. Soc. N. H., 1877, 127 (John Day R. Valley and Malheur Agency, e. Oregon, abundant).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 176 (descr. young).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 149 (Fort Fairfield and Grand Falls, Maine).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 168 (s. e. Texas; breeding habits).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains to 6,000 ft.).—BICKNELL, Auk, ii, 1885, 253 (notes).—SETON, Auk, iii, 1886, 320 (w. Manitoba, abundant).

T[yrannus] carolinensis CABANIS and HEINE, Mus. Hein., ii, 1859, 79.—COUES, Key N. Am. Birds, 2d ed., 1884, 432.

[*Tyrannus*] *carolinensis* GRAY, Hand-list, i, 1869, 364, no. 5541.—COUES, Key N. Am. Birds, 1872, 169.

Muscicapa rex BARTON, Fragments Nat. Hist. Pennsylvania, 1799, 18.

Tyrannus pipiri VIEILLOT, Ois. Am. Sept., i, 1807, 73, pl. 44 (new name for *Lanius tyrannus* Linnæus).—CABANIS, Journ. für Orn., 1855, 478 Cuba).—GUNDLACH, Journ. für Orn., 1861, 409 (Cuba; crit.); 1872, 423 (Cuba); Repert. Fisico-Nat. Cuba, 1865, 239.—SCLATER, Cat. Am. Birds, 1862, 236; Cat. Birds Brit. Mus., xiv, 1888, 267 (Panama; Santa Marta and Medellin, Colombia; Sarayacu, e. Peru; Nauta, upper Amazons; Ecuador; and numerous localities northward to Fort Simpson and Fort Dufferin, British America).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 189 (Nauta, Rio Ucayali, e. Peru; crit.); 1870, 837 (coast Honduras); 1873, 282 (Amazonia); 1878, 282 (Nauta, e. Peru); 1879, 515 (Medellin, Colombia), 616 (Bolivia).—COUES, Proc. Ac. Nat. Sci. Phila., 1871, 26—SALVIN and GODMAN, Ibis, 1880, 125 (Santa Marta, Colombia); Biol. Centr. Am., Aves, ii, 1889, 97.—SALVIN, Cat. Strickland Coll., 1882, 317 (Brazil?; Bolivia?); Ibis, 1889, 362 (Cozumel I., Yucatan; Ruatan I., Honduras; crit.).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Tizimin, Yucatan).—TACZANOWSKI, Orn. du Pérou, ii, 1884, 329.—SALVADORI, Boll. Mus. Zool., etc., Torino, xii, 1897, 16 (Caiza, s. Bolivia).—GOODFELLOW, Ibis, 1901, 707 (Gualea, w. Ecuador).

[*Tyrannus*] *pipiri* GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.

T[yrannus] intrepidus VIEILLOT, Tabl. Enc. Méth., ii, 1823, 849 (new name for *Lanius tyrannus* Linnæus).

Tyrannus intrepidus VIEILLOT, Gal. Ois., i, 1824, 214, pl. 133.—SWAINSON, Quart. Journ. Sci., xx, 1826, 274; Philos. Mag., i, 1827, 368.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 137.—BONAPARTE, Geog. and Comp. List., 1838, 24; Consp. Av., i, 1850, 192.—D'ORBIGNY, Voy. Amer. Mérid., Ois., 1839, 313 (Santa Cruz de la Sierra, Bolivia; habits).—WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 73.—SCLATER, Proc. Zool. Soc. Lond., 1857, 232 (Santo Domingo); 1858, 302 (Oaxaca); 1859, 383 (Playa Vicente, Vera Cruz), 439 ("whole of Mexico"); Ibis, 1859, 439 (Mexico; Guatemala).—SCLATER and SALVIN, Ibis, 1859, 120 (Guatemala).—MAXIMILIAN, Journ. für Orn., 1858, 181 (Missouri R., Fort Mackenzie, etc.).—MOORE, Proc. Zool. Soc. Lond., 1859, 55 (Omoa, Honduras; habits).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295 (Isthmus Panama).—SALVIN, Ibis, 1864, 378, 380 (Saddle Cay and Moon Cay, British Honduras).—BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 90 (Santo Domingo).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).

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T[yrannus] intrepidus HARTLAUB, Syst. Verz., 1844, 49 (North America).
Myiarchus intrepidus BURMEISTER, Verz. Mus. Hal., 1850, 46.
Muscicapa animosa LICHTENSTEIN, Verz. Säug. und Vögel Mus. Berlin, 1818, 18 (based on *Lanius tyrannus, γ. carolinensis* Gmelin).
M[uscicapa] animosa LICHTENSTEIN, Verz. Doubl., 1823, 54 (Carolina).
T[yrannus] animosus D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1839 (Synopsis Avium, p. 45) (Santa Cruz, Bolivia).
Ty[rannus] leucogaster STEPHENS, Shaw's Gen. Zool., xiii, pt. ii, Feb., 1826, 133 (new name for *Lanius tyrannus* Linnæus).
Tyrannus vieillotii SWAINSON, Fauna Bor.-Am., ii, 1831, 138 (based on Vieillot, Gal. Ois., pl. 133).
Tyrannus verticalis (not of Say) BROWN, Ibis, 1868, 420 (Vancouver I., British Columbia; see Ibis, 1869, 244).
Tyrannus tyrannus vexator BANGS, Auk, xv, Apr., 1898, 178 (Merrits Id., e. Florida: coll. G. S. Miller, jr.).—MEARNS, Auk, xix, 1902, 72 (Kissimmee Valley, Florida; descr.; crit.; descr. nest and eggs).
[*Tyrannus*] *vexator* SHARPE, Hand-list, iii, 1901, 148.

TYRANNUS VOCIFERANS Swainson.

CASSIN'S KINGBIRD.

Much like *T. verticalis*, but color of upper parts and gray of chest, etc., decidedly darker, outer web of outermost rectrix not white, paler wing-edgings broader, and sides more strongly olivaceous.

Adult male.—Pileum, hindneck, and sides of neck deep gray or slate-gray, the crown with a concealed patch of orange-red (orange chrome) underlaid posteriorly and laterally by white, tinged with yellow; back, scapulars, and upper rump plain grayish olive, or gray tinged with olive-green; lower rump more grayish, with feathers darker centrally; upper tail-coverts black, indistinctly margined with dusky grayish; tail black or brownish black, the rectrices more or less distinctly margined terminally with pale grayish brown or dull whitish, the outer web of lateral rectrix grayish brown, narrowly edged with paler; wings grayish brown, the lesser and middle coverts broadly margined terminally with pale brownish gray or dull whitish, the greater coverts and secondaries broadly edged with same (usually with dull whitish), the primary coverts and primaries narrowly edged with pale brownish gray; loral and suborbital regions mixed gray and dusky; auricular region dusky gray; chin and anterior half of malar region white, the latter ending abruptly, the former passing more gradually into deep gray (about no. 6) on lower throat and chest; sides of breast, sides, and flanks light greenish olive, tinged with gray anteriorly; rest of under parts canary yellow, fading into primrose on under tail-coverts; axillars and under wing-coverts dull primrose yellow; inner webs of remiges edged with dull yellowish white or pale grayish primrose yellow; bill black, the mandible sometimes brownish basally; iris brown; legs and feet brownish black; length (skins), 194–222 (207); wing,

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130–137 (132.7); tail, 90–96 (93.1); exposed culmen, 18–21.5 (19.7); tarsus, 18.5–20 (19.2); middle toe, 13.5–15 (14.4).[a]

Adult female.—Similar to the male and not always distinguishable as to coloration, but tips of longer primaries not distinctly, if at all, attenuated and orange-red crown spot usually more restricted; length (skins), 183–229 (207); wing, 121–131.5 (126.1); tail, 86–92 (89.4); exposed culmen, 18.5–22 (19.8); tarsus, 18–20.5 (19.3); middle toe, 13.5–16 (14.7).[a]

Young.—Essentially like adults, but crown without any orange-red, coloration of upper parts duller (the back sometimes decidedly grayish brown), paler wing-markings buffy, and yellow of under parts paler.

Southwestern United States, western and central Mexico, and southward, in migration, to Guatemala (casually to Costa Rica?); northward, along eastern base of Rocky Mountains, to eastern Colorado (El Paso County), and southern Wyoming (Cheyenne; Laramie); thence southward to western Texas, and westward through New Mexico and Arizona to southern California (north regularly to Santa Cruz County), more rarely to northern California (breeding at Paicines, San Benito County), occasionally (casually?) to northwestern Oregon (Washington County); breeding southward through northern and central Mexican States of Sonora, Chihuahua, Durango (El Salto; Cienega de las Vacas; Rio Sestin; Rancho Baillon), Jalisco (Ocatlan; Sierra Madre; Volcan de Colima; Mesquitic), and Guanajuato (Silao), and occurring, at least in winter, in States of Sinaloa (Culiacan; Escuinapa), Michoacan (Los Reyes; Patamban; Volcan de Jorullo), Colima (Plains of Colima), Morelos (Cuernavaca; Yautepec), Mexico (near City of Mexico; Tlalpam; Temascaltepec; Culhuacan; Coapa; Chimalpa; Ixtapalapa; Coajimalpa), Puebla

[a] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from California	133.4	93.8	20.1	19.3	14.9
Eight adult males from Arizona	132.5	93.2	19.8	19.2	14.1
Two adult males (breeding) from Durango and Jalisco	132.3	91.5	18.5	19.3	13.8
FEMALES.					
Four adult females from California and northern Lower California	126.6	89.5	20.9	19.8	15.3
Six adult females from Arizona (5) and New Mexico (1)	124.5	89.7	19.6	19.4	14.8
Four adult females from Chihuahua, Guanajuato, Jalisco, and Tepic	128.1	89	19.1	18.8	14

I am not able to discover any difference in color between specimens from Mexico and those from the United States.

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(Atlixco; Huexotitla; Llano de San Baltasar), San Luis Potosi, Vera Cruz (Orizaba; Mirador), Oaxaca and Chiapas (Comitan), and Territory of Tepic (Santa Teresa; Tepic) and on highlands of Guatemala (Salamá; Dueñas). (Costa Rican record very doubtful, probably an error.)

Tyrannus vociferans SWAINSON, Quart. Journ. Sci., xx, Jan., 1826, 273 (Temascaltepec, Mexico); Philos. Mag., n. s., i, 1827, 368.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 174; ed. 1860 (Birds N. Am.), pl. 48; Cat. N. Am. Birds, 1859, no. 127; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 8, pl. 10 (Colorado R., California; Los Nogales, Sonora).—HENRY, Proc. Ac. Nat. Sci. Philad., 1869, 106 (New Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1859, 383 (Oaxaca); 1864, 176 (City of Mexico); Ibis, 1859, 439 (n. Mexico; Oaxaca; Guatemala); Cat. Am. Birds, 1862, 235 (Los Nogales, Sonora); Cat. Birds Brit. Mus., xiv, 1888, 269 (Dueñas and Salamá, Guatemala, etc.).—SCLATER and SALVIN, Ibis, 1859, 120 (Salamá, Vera Paz, Guatemala).—COUES, Proc. Ac. Nat. Sci. Philad., 1866, 59 (Fort Whipple, Arizona); Check List, 1873, no. 245; 2d ed., 1882, no. 371; Birds Northwest, 1874, 238; Bull. U. S. Nat. Mus., no. 7, 1877, 12 (Santo Tomas Bay, Lower California).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 557 (Vera Cruz).—DUGÈS, La Naturaleza, i, 1869, 141 (Guanajuato).—COOPER, Orn. Cal., i, 1870, 314 (s. half California, breeding n. to Santa Cruz, wintering n. to Los Angeles).—AIKEN, Proc. Bost. Soc. N. H., 1872, 205 (El Paso Co., Colorado).—MERRIAM, Rep. U. S. Geol. Surv. Terr., 1872, 690 (Cheyenne, Wyoming).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 327, pl. 43, fig. 5; iii, 1874, 518 (Tucson, Arizona; descr. nest and eggs).—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1873 (1874), 125 (Neutria, Wingate, and Inscription Rock, New Mexico; Mount Turnbull and Gila R., Arizona); Zool. Exp. W. 100th Merid., 1875, 343 (localities in New Mexico and Arizona; habits).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 288 (Plains of Colima).—STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 12 (Santo Tomas Bay, Pacific side, Lower California).—RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 480 (monogr.); Nom. N. Am. Birds, 1881, no. 307.—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 202 (Tombstone, Tuscon, and Santa Rita Mts., Arizona; crit.); Bull. Mus. Comp. Zool., xli, 1902, 116 (Cape district Lower California, apparently breeding at San José del Rancho).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 531 (Cerros I., Lower California), 541 (Cape San Lucas).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains up to 7,000 ft.).—ANTHONY, Auk., iii, 1886, 166 (Washington Co., Oregon, May).—(?) ZELEDON, Cat. Aves de Costa Rica, 1882, 15 (Costa Rica?).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 155 (Huexotitla and Llano de S. Baltasar, Puebla, Nov.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 448.—EVERMANN, Auk, iii, 1886, 180 (Ventura Co., California, breeding).—SCOTT, Auk, iv, 1887, 17 (Santa Catalina Mts., etc., Arizona, 3,500 to 9,000 ft.; habits).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 99 (Santa Rosa, Trinidad, and Micoba, Sonora; Culhuacan, Coapa, Ixtapalapa, Coajimalpa, and Chimalpa, State of Mexico; Chilpancingo and Amula, Guerrero; Atlixco, Puebla; Salamá and Dueñas, Guatemala; Costa Rica).—MEARNS, Auk, vii, 1890, 255 (San Francisco and Mogollon Mts., Arizona, up to 12,000 ft.).—FISHER (A. K.), North Am. Fauna, no. 7, 1893, 60 (Twin Oaks, w. San Diego Co., California, breeding; San Bernardino, Jan.).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 249, pl. 1, figs. 18, 19 (eggs).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 249.—SWARTH, Pacific Coast Avif., no. 4, 1904, 20 (Huachuca Mts., Arizona, breeding, from 4,500 to 7,500 ft.; habits).—MILLER

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(W. D.), Bull. Am. Mus. N. H., xxi, 1905, 358 (Escuinapa, Sinaloa, Jan.); xxii, 1906, 168 (Cienega de las Vacas, Rio Sestin, and Rancho Baillon, Durango, breeding).

[*Tyrannus*] *vociferans* GRAY, Hand-list, i, 1869, 364, no. 5550.—COUES, Key N. Am. Birds, 1872, 170.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—SHARPE, Hand-list, iii, 1901, 149.

T[yrannus] vociferans COUES, Key N. Am. Birds, 2d ed., 1884, 433; 5th ed., i, 1903, 515.—RIDGWAY, Man. N. Am. Birds, 1887, 330.

T[yrannus] verticalis (not of Say) HARTLAUB, Syst. Verz., 1844, 49, part (Mexico).

L[aphyctes] vociferans CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 77 (Mexico).

[*Laphyctes*] *vociferans* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 147 (Mexico).

Tyrannus cassinii LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., v, 1852, 39, pl. 3, fig. 2 (Texas; coll. G. N. Lawrence?).—BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1853, 329 (Texas).

TYRANNUS VERTICALIS Say.

ARKANSAS KINGBIRD.

Adult male.—Pileum and hindneck plain gray (no. 6), the crown with a large concealed patch of reddish orange or orange-red (orpiment orange to orange-chrome) underlaid posteriorly and laterally by an admixture of white and yellow; back, scapulars, and upper rump plain yellowish gray or light yellowish olive, the lower rump grayer, with feathers darker centrally; upper tail-coverts black, sometimes with indistinct grayish margins; tail black, the outer web and shaft of outermost rectrix wholly white or yellowish white, except (sometimes) part of terminal portion;[a] wings deep to dark grayish brown, all the feathers narrowly margined or edged with paler; lores mixed gray and dusky; auricular region (except lower portion) gray, more or less conspicuously darker than color of pileum; lower anterior portion of auricular region, suborbital region, malar region, chin, and upper throat white or grayish white, passing gradually into pale gray (no. 9 to no. 10) on lower throat and chest; rest of under parts canary yellow, paler (primrose yellow) on under tail-coverts, shading into light yellowish olive or olive-yellow on sides, flanks, and upper breast; axillars and under wing-coverts pale yellowish gray margined with pale yellow; inner webs of remiges edged with very pale grayish yellow or dull yellowish white; bill black or brownish black, the basal portion of mandible slightly more brownish; iris brown; legs and feet brownish black; length (skins), 185–224 (206); wing, 125–134.5 (130.1); tail, 87–97.5 (93.5); exposed culmen, 16–21 (18.7); tarsus, 16.5–20 (18.8); middle toe, 12.5–15 (13.9).[b]

[a] Sometimes the rectrices are narrowly margined terminally with pale grayish brown or whitish.

[b] Twenty-eight specimens.

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Adult female.—Similar to the male and not always distinguishable as to coloration, but tips of longer primaries much less attenuate, and orange-red crown spot usually more restricted; length (skins), 181–204 (196)[a]; wing, 118.5–129.5 (122.3); tail, 81.5–94 (86.9); exposed culmen, 16.5–19.5 (18.1); tarsus, 18–19.5 (18.5); middle toe, 13.5–14.5 (13.9).[a]

Young.—Essentially like adults, but no orange or orange-red patch on crown; gray of head browner (more drab-gray), becoming much paler on superciliary region; feathers of lower rump margined terminally with light cinnamon-brownish; wing-edgings broader and more or less buffy, and yellow of under parts paler.

Western United States and contiguous parts of British America and Mexico; north to North Dakota, Montana, northern Idaho, and southern British Columbia (Vancouver Island), occasionally to Manitoba (Souris), southern Assiniboia, and Alberta (?); east regularly to western Minnesota (Lake Traverse and Minnesota River), eastern South Dakota and Nebraska, middle Kansas, Oklahoma, and western Texas; breeding southward to northern Lower California (Rancho San Ysidora), southern Arizona (Tucson, Camp Lowell, Huachuca Mountains., etc.), and northern Chihuahua (San Diego; Casas Grandes), probably also northern Sonora; southward during migration through western Mexico (Tepic; Plains of Colima; Tapana, Oaxaca), to highlands of Guatemala (Dueñas; Volcan de Fuego). Accidental in Iowa, Maine (Pembroke), New York (Riverdale, October 19, 1875), Maryland (near Washington, D. C., September, 1874), etc.

Tyrannus verticalis SAY, Long's Exp. Rocky Mts., ii, 1823, 60 (Arkansas R., Colorado or w. Kansas).—BONAPARTE, Geog. and Comp. List, 1838, 25.—NUTTALL, Man. Orn. U. S. and Can., 2d ed., 1840, 360.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 173; Cat. N. Am. Birds, 1859, no. 126.—HEERMANN,

[a] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Rocky Mountain district (Utah and Wyoming, northward)	131.8	94.6	18.6	·19	14.3
Ten adult males from New Mexico, Arizona, Chihuahua, and Sonora	130.3	93	18.4	18.6	13.8
Four adult males from northern Lower California and San Diego Co., California	129.4	94.1	20.1	17.9	13.4
Eight adult males from California (north of San Diego Co.)	128.7	92.9	18.4	18.2	14.3
FEMALES.					
Two adult females from Montana	122.3	83.5	18	19	13.8
Five adult females from western Texas, New Mexico, Arizona, and Chihuahua	124.4	88.8	18.6	18.4	14.1
Four adult females from northern Lower California and San Diego Co., California	120.9	86.6	18.4	18.6	14
Three adult females from California (north of San Diego Co.)	120.7	86.3	17.2	18.3	13.5

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Rep. Pacific R. R. Surv., x, pt. vi, 1859, 37 (California).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 168 (Oregon and Washington).—SCLATER, Cat. Am. Birds, 1862, 235 (California; Nebraska); Cat. Birds Brit. Mus., xiv, 1888, 269 (59th Parallel; Dueñas and Volcan de Fuego, Guatemala, etc.).—LORD, Proc. Roy. Art. Inst. Woolwich, iv, 1864, 113 (British Columbia).—BRYANT, Proc. Bost. Soc. N. H., x, 1865, 96 ("Plympton," i. e., Pembroke, Maine, accidental).—COOPER, Orn. Cal., 1870, 312.—ALLEN, Bull. Mus. Comp. Zool., 1872, 179 (Kansas, etc.).—MERRIAM, Rep. U. S. Geol. Surv., 1872, 690 (Idaho, etc.).—COUES, Check List, 1873, no. 244; 2d ed., 1882, no. 370; Birds North-west, 1874, 236.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 288 (Tepic; Plains of Colima).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 324, pl. 43, fig. 2.—HENSHAW, Zool. Expl. W. 100th Merid., 1875, 342 (California, Nevada, Colorado, New Mexico, and Arizona).—RIDGWAY, Orn. 40th Parallel, 1877, 528 (Sacramento, California; localities in Nevada and Utah; habits); Proc. U. S. Nat. Mus., i, 1879, 479 (monogr.); Nom. N. Am. Birds, 1881, no. 306.—BENDIRE, Proc. Bost. Soc. N. H., 1877, 127 (Camp Harney, e. Oregon); Life Hist. N. Am. Birds, ii, 1895, 245, pl. 1, figs. 16, 17 (eggs).—JOUY, Field and Forest, ii, 1877, 178 (Maryland, near Washington, D. C., accidental).—BREWSTER, Bull. Nutt. Orn. Club, iv, 1879, 42 (descr. young); vii, 1882, 202 (Camp Lowell and Tucson, Arizona).—BICKNELL, Bull. Nutt. Orn. Club, iv, 1879, 60 (Riverdale, New York, 1 spec., Oct. 19, 1875).—ROBERTS and BENNER, Bull. Nutt. Orn. Club, iii, 1880, 15 (Lake Traverse and Minnesota R., w. Minnesota, breeding).—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 195 (Colorado Springs, Colorado).—DREW, Auk, ii, 1885, 15 (Colorado, breeding from plains up to 7,000 ft.).—AGERSBORG, Auk, ii, 1885, 283 (s. e. South Dakota, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 447.—SCOTT, Auk, iv, 1887, 16 (localities in Arizona).—COOKE, Bird Migr. Miss. Val., 1888, 148 (s. e. Dakota; s. e. Nebraska; mid. and w. Kansas, e. to Fort Hays; accidental in Iowa, etc.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 100 (Tepic and Plains of Colima, w. Mexico; Volcan de Agua and Dueñas, Guatemala).—BRYANT (W. E.), Proc. Calif. Ac. Sci., ser. 2, 1889, 290 (San Quentin Bay, Lower California).—MERRIAM, North Am. Fauna, no. 5, 1891, 98 (Big Butte, Big Lost R., Devil Creek, and Fort Lapwai, Idaho).—Goss, Hist. Birds Kansas, 1891, 358 (common in mid. and w. Kansas).—THOMPSON, Auk, x, 1893, 49 (Souris, Manitoba, 2 specs., Aug. 20).—STONE, Birds E. Penn. and N. J., 1894, 99 (Camden Co., New Jersey, accidental).—THORNE, Auk, xii, 1895, 215 (Fort Keogh, e. Montana, breeding).—NEHRLING, Our Native Birds, ii, 1896, 343.—MERRILL, Auk, xiv, 1897, 355 (Fort Sherman, n. w. Idaho, rare).—SWARTH, Pacific Coast Avif., no. 4, 1904, 20 (Huachuca Mts., Arizona, breeding; habits).—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 358 (Los Pieles, Sinaloa, Apr. 18).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 248.

T[yrannus] verticalis HARTLAUB, Syst. Verz., 1844, 49, part.—COUES, Key N. Am. Birds, 2d ed., 1884, 433; 5th ed., i, 1903, 515.—RIDGWAY, Man. N. Am. Birds, 1887, 330.

[Tyrannus] verticalis BONAPARTE, Consp. Av., i, 1850, 192.—GRAY, Hand-list, i, 1869, 364, no. 5551.—COUES, Key N. Am. Birds, 1872, 170.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—SHARPE, Hand-list, iii, 1901, 148.

Muscicapa verticalis BONAPARTE, Am. Orn., i, 1825, 18, pl. 2; Synopsis Birds U. S., 1828, 67.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 273.—AUDUBON, Orn. Biog., iv, 1838, 422, pl. 359; Synopsis, 1839, 39; Birds Am., oct. ed., i, 1840, 199, pl. 54.

L[aphyctes] verticalis CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 77, footnote.

[Laphyctes] verticalis HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 147.

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TYRANNUS MELANCHOLICUS SATRAPA (Cabanis and Heine).

LICHTENSTEIN'S KINGBIRD.

Similar to *T. m. melancholicus*,[a] but averaging lighter and clearer in color of upper parts, throat paler gray (nearly white), chest less strongly olive-greenish, and yellow of under parts deeper.

Adult male.—Pileum and hindneck plain gray (about no. 7), the crown with a large concealed longitudinal patch of bright reddish orange (orange chrome), underlaid posteriorly and laterally with yellow and white; back, scapulars, and rump mixed gray and yellowish olive-green, in varying relative proportion, sometimes[b] uniform yellowish olive-green, sometimes[c] mostly gray; upper tail-coverts dark olive or dusky grayish brown margined (more or less distinctly) with paler; tail dusky grayish brown, the rectrices margined terminally (more or less distinctly) with paler, their outer webs edged with pale olive (nearly white on edge of lateral rectrix); wings dusky grayish brown, the middle and posterior lesser coverts broadly margined with pale gray or brownish gray, the greater coverts and secondaries edged with paler gray or pale yellowish olive or olive-yellow (the edgings much broader on inner secondaries), the primary coverts and primaries more narrowly edged with pale grayish; lores gray, more or less suffused with dusky posteriorly; auricular region (except lower portion) dusky gray, with indistinct shaft-streaks of paler; suborbital and malar regions and lower portion of auricular region very pale gray, passing into white or grayish white on chin and throat, the lower portion of the latter more or less tinged with gray; chest light yellowish olive, deeper laterally; rest of under parts plain yellow (canary to nearly chrome, usually between canary and lemon), the under tail-coverts paler yellow; axillars and under wing-coverts pale (primrose) yellow; inner webs of remiges edged with dull yellowish white; bill black or brownish black, the mandible sometimes more brownish basally; iris brown; legs and feet black or brownish black; length (skins), 184–230 (221); wing, 109.5–124.5 (119.5); tail, 87–105 (98.9); exposed culmen, 20–27 (22.9); tarsus, 15.5–20 (18.7); middle toe, 12–15 (14.1).[d]

Adult female.—Similar to the male and not always distinguishable as to coloration, but tips of longer primaries much less distinctly (sometimes hardly at all) attenuated, and orange crown-patch usually smaller; length (skins), 185–219 (203); wing, 104–115 (111.1); tail,

[a] See the "Key" on p. 688.

[b] Especially in specimens from Yucatan.

[c] Especially in specimens from Cozumel Island, Yucatan.

[d] Sixty-nine specimens.

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84–97 (90.3); exposed culmen, 19.5–25.5 (22.8); tarsus, 17–21 (18.7); middle toe, 12.5–15 (14.1).[a]

[a] Thirty-five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males (of *T. m. melancholicus*) from Paraguay (1), Argentina (2), and southern Brazil (3)	116.9	98.9	23.6	18.1	13.7
Four adult males (of *T. m. melancholicus*?) from eastern Peru	116.6	95.6	22.7	16.8	12.8
Two adult males (of *T. m. melancholicus*?) from western Ecuador (Guayaquil)	118.5	97.7	22.5	16.7	13.7
Four adult males from Guiana (1) and Lower Amazon (3)	114.2	95	21.9	16.5	13.5
One adult male from Grenada	113.5	95	22	17	13
Two adult males from Tobago	114.5	93.5	21.5	17.2	13.7
Two adult males from Venezuela	115.5	96.7	23.5	17.5	12.7
Six adult males from Colombia (Province of Santa Marta)	114.3	97.2	22.2	17.8	13.4
Five adult males from Panama	113	91.3	22.1	18.3	14
Ten adult males from Costa Rica	119.6	100.1	22.1	18.5	14.1
Four adult males from Nicaragua (3) and southern Honduras (1)	114.2	95	23.1	18.5	13.7
Four adult males from Guatemala (3) and Chiapas	117.6	96.5	20.6	18.1	13.5
Ten adult males from Yucatan	120.1	97.5	22.1	18.5	14.2
Nine adult males from Cozumel Island	114.8	95.4	25.3	19.3	14.1
Two adult males from Tabasco	117.2	98.5	23.2	19.2	14
Three adult males from Oaxaca	115.5	97.8	23	20	14.7
One adult male from southern Vera Cruz (Jaltipan)	117	96	21	18.5	13.5
Four adult males from Sinaloa (3) and Jalisco (1)	112.9	92.5	22.1	18.6	13.8
Four adult males from Tres Marias Islands	114.5	93.5	23.3	18	14
Seven adult males (of *T. m. couchii*) from northern Vera Cruz (1), Tamaulipas, Nuevo Leon, and Texas	126.8	104.3	22.3	19.1	15.3
FEMALES.					
One adult female (*T. m. melancholicus*) from Argentina	114	89.5	21.5	18	15
One adult female (*T. m. melancholicus*) from southwestern Brazil (Chapada)	109.5	91	23.5	18	14
One adult female (*T. m. melancholicus*) from Bolivia (La Paz)	119.5	92.5	23.5	18.5	14.5
One adult female (*T. m. melancholicus*?) from western Ecuador (Guayaquil)	117.5	87	22.5	18.5	14.5
Four adult females from Trinidad (2) and Tobago (2)	109.5	91.1	22.7	18	13.6
Two adult females from Colombia	111	93.2	21	17.7	12.5
Four adult females from Panama	110.7	90.2	21.7	18	13.6
Six adult females from Costa Rica	113.2	90.2	21.3	18.7	14.4
Five adult females from Nicaragua (4) and southern Honduras (1)	110.6	90.5	22	18.5	13.9
Three adult females from northern Honduras (2) and Guatemala (1)	111.5	89.2	23.7	20	14.5
Four adult females from Yucatan	110.7	88.7	23	18.6	14.1
Five adult females from Cozumel Island	109.9	89.4	24.6	19.2	14.4
Two adult females from Oaxaca	112.5	91.2	22	19.5	15
Nine adult females (*T. m. couchii*) from northern Vera Cruz, Tamaulipas, Nuevo Leon, and Texas	119.2	94.6	21.6	19.1	14.8

For convenience of comparison I have given measurements of all the forms. These show that there is no material variation (considering inequality of the series from the

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Young.—Essentially like adults, but without orange on crown, gray of head browner (smoke gray or drab gray), back, etc., duller olive, yellow of under parts usually paler, and wing-coverts and rectrices conspicuously margined with pale cinnamon or buffy.

Western and southern Mexico, from States of Sinaloa and southern Vera Cruz, southward through Central America, Colombia, Venezuela, and Guiana to Trinidad, Tobago, and lower Amazon Valley (Diamantina; Santarém; Mexiana Island; Pará), and island of Grenada. Lesser Antilles (accidental). Accidental in Cuba (Cienfuegos)? [*Sinaloa:* Mazatlan; Rosario; Presidio. *Tepic:* San Blas. *Jalisco:* Ocotlan. *Colima:* Plains of Colima; Manzanillo. *Guerrero:* Acapulco. *Oaxaca:* Tehuantepec; Tapana; Chihuitan; Tuxtepec; Barrio: Dondominguillo. *Southern Vera Cruz:* Jaltipan. *Tabasco:* Frontera. *Chiapas:* San Bartolomé. *Yucatan:* Mérida; Progreso; Chichen-Itza; La Vega; Cozumel, Mujeres, Meco, and Holbox islands. *British Honduras:* Belize. *Guatemala:* San Gerónimo; Dueñas; Cajabon; Rio Managua. *Honduras:* Omoa; San Pedro Sula; Segovia River. *Nicaragua:* Blewfields; Greytown; Mosquito Coast; Rio Escondido. *Costa Rica:* San José; Grecia; Barranca; Sarchí; Volcan de Irazú; Volcan de Miravalles; Santo Domingo de San Mateo; Alajuela; Juan Viñas; Jiménez. *Panama:* Lion Hill; Divala; David; Calobre; Calovevora; Castillo; San Miguel Island, Bay of Panama.]

Muscicapa despotes (not of Lichtenstein, 1823) LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 2; Journ. für Orn., 1863, 58 (reprint).

(?) *Tyrannus sulphuracens* HARTLAUB, Naumannia, 1852, 52 (Cuba; Haiti; ex Paul von Württemberg, manuscript).—CABANIS, Journ. für Orn., 1855, 479.—GUNDLACH, Journ. für Orn., 1861, 410 (Cuba); 1857, 241 (crit., etc.); Orn. Cub., 1872, 4; ed. 1893, 83 (Cienfuegos, Cuba, 1 spec., 1823).

(?) [*Tyrannus*] *sulphuracens* GRAY, Hand-list, i, 1869, 365, no. 5560.

(?) *Tyrannus sulphurascens* CORY, Cat. West Ind. Birds, 1892, 124.

Tyrannus melancholicus (not of Vieillot) CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 700.—SCLATER, Proc. Zool. Soc. Lond., 1855, 150 (Bogota, Colombia); 1856, 141 (David, Panama), 297 (Mexico); 1870, 439 (Oaxaca;

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different geographic areas) except in the case of specimens from northeastern Mexico and the Rio Grande Valley of Texas, which are decidedly larger, except bill and feet. The status of specimens from northeastern South America puzzles me exceedingly, and I have not a sufficient series of specimens to enable me to determine their status satisfactorily. On the whole, they seem to resemble Central American specimens more than those from southern Brazil, etc., yet some specimens (notably the single example from the island of Grenada and several from Tobago and Trinidad) I can not distinguish from true *T. melancholicus*, being quite as dark in coloration as any of the latter. Specimens from Yucatan are almost invariably clear yellowish olive-green on the back, etc., and closely resemble in coloration *T. m. couchii;* on the other hand, none of the specimens from the island of Cozumel are like those from the mainland of Yucatan, all (in the series before me) having more gray than olive-green above. On the whole, I am not satisfied with the arrangement here presented, but, owing to lack of both time and material, must leave the subject to some one else for more detailed treatment.

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Guatemala); Ibis, 1859, 439, part (Guatemala, etc.); 1873, 373 (Chontales, Nicaragua); Cat. Birds Brit. Mus., xiv, 1888, 273, part (Mazatlan and Presidio, Sinaloa; Acapulco, Guerrero; Tehuantepec, Oaxaca; Progreso, Mérida, Cozumel I., Mugeres I., Holbox I., and Meco I., Yucatan; Belize, British Honduras; localities in Guatemala, Nicaragua, Costa Rica, Panama, Colombia, and British Guiana; Tobago; Trinidad; Mexiana I. and Pará, Lower Amazons).—Baird, Rep. Pacific R. R. Surv., ix, 1858, 176, part (specimens from "Vera Cruz" and Panama); ed. 1860 (Birds N. Am.), pl. 49, fig. 2; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, pl. 11, fig. 2.—Moore, Proc. Zool. Soc. Lond., 1859, 55 (Omoa, Honduras).—Sclater and Salvin, Ibis, 1859, 121 (Dueñas, Guatemala; descr. nest and eggs; egg figured, pl. 5, fig. 4); Proc. Zool. Soc. Lond., 1864, 360 (Panama); 1867, 279 (Mosquito Coast, Nicaragua), 579 (Pará); 1870, 837 (coast of Honduras); 1819, 516 (Retiro and Medellin, Colombia; habits; descr. nest and eggs).—Cassin, Proc. Ac. Nat. Sci. Phila., 1860, 143 (Rio Truando, Colombia).—Taylor, Ibis, 1860, 113 (Honduras; habits); 1864, 87 (Trinidad; Venezuela).—Owen, Ibis, 1861, 63 (San Gerónimo, Guatemala; descr. nest and eggs).—Lawrence, Ann. Lyc. N. Y., vii, 1862, 295 (Panama); ix, 1868, 116 (San José, Grecia, Sarchi, and Barranca, Costa Rica); ix, 1869, 204 (Yucatan); Proc. U. S. Nat. Mus., i, 1878, 271 (Grenada, accidental).—Salvin, Proc. Zool. Soc. Lond., 1867, 148 (David, Panama); 1870, 199 (Calovevora, Castillo, and Calobre, Panama); 1883, 424 (Acapulco, Guerrero); Ibis, 1885, 299 (British Guiana); 1889, 363 (Meco, Holbox, Mugeres, and Cozumel islands, Yucatan; crit.).—Frantzius, Journ. für Orn., 1869, 308 (Costa Rica).—Finsch, Proc. Zool. Soc. Lond., 1870, 523 (Trinidad; crit.).—Wyatt, Ibis, 1871, 334 (Colombia, up to 7,000 ft.).—Layard, Ibis, 1873, 383 (Pará).—Boucard, Proc. Zool. Soc. Lond., 1878, 64 (San José, Costa Rica); 1883, 448 (Yucatan).—Salvin and Godman, Proc. Zool. Soc. Lond., 1879, 202 (Atanques, Santa Marta, Colombia); Biol. Centr.-Am., Aves, ii, 1889, 101 (chiefly).—Forbes, Ibis, 1881, 344 (n. e. Brazil).—Berlepsch, Journ. für Orn., 1884, 304 (Bucaramanga, Colombia).—Ridgway, Proc. U. S. Nat. Mus., vii, 1884, 173 (Trinidad).—Cory, Auk, iii, 1886, 243 (Grenada); Birds West Ind., 1889, 130 (do.); Cat. West Ind. Birds, 1892, 108 (do.).—Wells, Proc. U. S. Nat. Mus., ix, 1887, 618 (Grenada; accidental).—Chapman, Bull. Am. Mus. N. H., viii, 1896, 284 (Chichen-Itza, Yucatan).—Underwood, Ibis, 1896, 438 (Volcan de Miravalles, Costa Rica).—Dalmas, Bull. Soc. Zool. France, xiii, 1900, 139 (Tobago).—Berlepsch and Hartert, Novit. Zool., ix, 1902, 52 (localities in Orinoco district, Venezuela; descr. nest and eggs).

L[aphyctes] satrapa Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 77 (Guiana; Caracas, Venezuela; ex *Muscicapa satrapa* Lichtenstein, manuscript, from Mexico).[a]

[a] The name cited above comes near being a *nomen nudum*, and the question of whether Guiana or Mexico should be accepted as the type locality is one not easy to determine. Following is a translation of the remarks, in full, in the footnote on p. 77 of the *Museum Heineanum:*

"Lichtenstein has separated the Mexican specimens of this species in the Berlin Museum, under the name of *Muscicapa satrapa*, specifically from the Brazilian specimens. The same are indeed larger, have a less strongly forked tail, etc. *If there are, however, only two climatic varieties to be distinguished,* the bird occurring on the *northern coast of South America will have to be referred to the northern variety.*" The last paragraph (not italicized in the original), shows clearly that, instead of northern South America being the type locality of *Laphyctes satrapa*, specimens from that district were even doubtfully referred to it!

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[*Laphyctes*] *satrapa* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 147 (Guiana; Caracas).

Laphyctes satrapa CABANIS, Journ. für Orn., 1861, 251 (Costa Rica).

Tyrannus satrapa SCLATER, Cat. Am. Birds, 1862, 235, part (Tobago; Santa Marta and Bogota, Colombia; Salamá, Guatemala).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 360 (Panama); 1867, 279 (Blewfields, Nicaragua).—LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 182 (Greytown, Nicaragua); ix, 1869, 204 (Mérida, Yucatan).

Tyrannus melancholicus, var. *satrapa* LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 288 (Mazatlan; Plains of Colima; habits); Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Chihuitan, Tapana, Barrio, and Dondominguillo, Oaxaca).

[*Tyrannus melancholicus*] *γ. satrapa* RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 474 (synonymy, etc.).

Tyrannus melancholicus satrapa RIDGWAY, Proc. U. S. Nat. Mus., v, Sept. 5, 1882, 394 (La Palma, Costa Rica), 496 (Volcan de Irazú, Costa Rica); x, 1887, 589 (Segovia R., Honduras).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 374, 384, 393 (San Juan del Sur, Sucuyá, and Ometepe, Nicaragua).—CHERRIE, Auk, ix, 1892, 251 (San José, Costa Rica).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Rio Escondido, Nicaragua).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 44 (Trinidad; habits; notes).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 673 (Margarita I., Venezuela).—PHELPS, Auk, xiv, 1897, 365 (San Antonio, Venezuela).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia), 176 (Palomina and Macotama, Santa Marta; crit.); Bull. New Engl. Zool. Club, i, 1899, 79 (San Sebastian, Santa Marta); Auk, xviii, 1901, 30 (San Miguel I., Bay of Panama); Bull. Mus. Comp. Zool., xxxix, 1903, 148 (Ceiba, Honduras; crit.).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 142 (Bonda, etc., Santa Marta); xxi, 1905, 281 (do.; descr. nest and eggs).—CLARK (A. H.), Auk, xix, 1902, 263 (Margarita I.); Proc. Bost. Soc. N. H., xxxii, 1905, 276 (Grenada and Union islands, Lesser Antilles).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1905, 96 (Gorgona I., Bay of Panama), 154 (San Miguel, Saboga, and Pachuca islands, Bay of Panama).—HELLMAYR, Novit. Zool., xiii, 1906, 26 (Caparo, Trinidad; crit.).

Tyrannus verticalis (not of Say) LÉOTAUD, Ois. Trinidad, 1866, 213.

Tyrannus vociferans (not of Swainson) LÉOTAUD, Ois. Trinidad, 1866, 213.

Tyrannus melancholicus, var. *couchi* (not *Tyrannus couchii* Baird, 1858) BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 329, part (Guatemala).

Tyrannus melancholicus couchi RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 570 (Cozumel I., Yucatan).—NELSON, North Am. Fauna, no. 14, 1899, 48 (Tres Marias Islands, w. Mexico; crit.).

Tyrannus melancholicus, var. *couchii* LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 288 (Mazatlan).

Tyrannus melancholicus couchii AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 446, part.—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 358 (Escuinapa, etc., Sinaloa).

T[*yrannus*] *melancholicus couchi* RIDGWAY, Man. N. Am. Birds, 1887, 329, part.

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TYRANNUS MELANCHOLICUS COUCHII (Baird).

COUCH'S KINGBIRD.

Similar to the lighter colored examples of *T. m. satrapa* but decidedly larger, grayish brown of tail and wings paler, chin and upper throat more purely white, color of chest more yellowish, and "mantle" more uniformly yellowish olive-green.[a]

Adult male.—Length (skins), 215–223 (219); wing, 124–131 (126.8); tail, 101–108 (104.3); exposed culmen, 21–24.5 (22.3); tarsus, 18–20 (19.1); middle toe, 14.5–16 (15.3).[b]

Adult female.—Length (skins), 203–227 (213); wing, 115.5–122.5 (119.2); tail, 89.5–102 (94.6); exposed culmen, 20–23 (21.6); tarsus, 18–21 (19.1); middle toe, 14–15.5 (14.8).[c]

Lower Rio Grande Valley in Texas (Hidalgo County to Brewster County) and southward through Mexican States of Tamaulipas (Matamoras; Soto la Maria; Linares; Sierra Madre above Victoria; Aldama; Tampico), Nuevo Leon (San Diego; Monterey; Rio San Juan; Ceralvo; San Antonio; Estancia; Topo Chico) to highlands of Vera Cruz (Orizaba; Mirador; Cordova; Jalapa?; Papantla; Rivera) and Puebla (Metlaltoyuca).

Tyrannus couchii BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 175 (Nuevo Leon, Mexico; coll. U. S. Nat. Mus.); ed. 1860 (Birds N. Am.), pl. 49, fig. 1; Rep. U. S. and Mex. Bound. Surv., ii, pt. 2, 1859, 8, pl. 11, fig. 1 (San Diego, Nuevo Leon); Cat. N. Am. Birds, 1859, no. 128.—SCLATER, Ibis, 1859, 439 (Orizaba, Vera Cruz); Cat. Am. Birds, 1862, 235 (Mexico).—DRESSER, Ibis, 1865, 472 (Matamoras, Tamaulipas; Brownsville, Texas).

Tyrannus couchi BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, pl. 43, fig. 7 (Tamaulipas).

[*Tyrannus*] *couchii* GRAY, Hand-list, i, 1869, 364, no. 5552.

Tyrannus melancholicus . . . var. *couchii* COUES, Check List, 1873, no. 246.

Tyrannus melancholicus var. *couchi* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 329, part.

Tyrannus melancholicus couchi COUES, Check List, 2d ed., 1882, no. 372.—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 31 (Hidalgo, Hidalgo Co., Texas); v, 1879, 401 (Lomita Ranch, Hidalgo Co., Texas); Auk, i, 1884, 93 (Lomita Ranch; descr. nest and eggs).—MONTGOMERY, Auk, xxii, 1905, 14 (Altudo, Brewster Co., Texas).

T[*yrannus*] *melancholicus couchi* COUES, Key N. Am. Birds, 2d ed., 1884, 434; 5th ed., i, 1903, 515.—RIDGWAY, Man. N. Am. Birds, 1887, 329, part.

Tyrannus melancholicus couchii RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 185; Nom. N. Am. Birds, 1881, no. 305.—(?) FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 155 (Jalapa, Vera Cruz).—AMERICAN ORNITHOLOGIST'S UNION,

[a] In the last character resembling specimens of *T. m. satrapa* from Yucatan, which, however, are smaller and otherwise different.

[b] Seven specimens.

[c] Nine specimens.

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Check List, 1886, no. 446, part.—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 243, pl. 2, figs. 5, 6 (eggs).—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 248.

Tyrannus melancholicus (not of Vieillot) SCLATER, Proc. Zool. Soc. Lond., 1859, 439, part (Cordova, Orizaba, and Jalapa, Vera Cruz); 1870, 439 (Cordova; Jalapa); Cat. Birds Brit. Mus., xiv, 1888, 273, part (in synonymy).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 101, part ("Arizona"; Texas; San Diego, Ceralvo, San Antonio, Estancia, and Topo Chico, near Monterey, Nuevo Leon; Sierra Madre above Ciudad Victoria, Soto la Maria, Aldama, and Tampico, Tamaulipas).

[*Tyrannus*] *melancholicus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53, part.

(?) *Tyrannus satrapa* (not of Cabanis and Heine?) SCLATER, Cat. Am. Birds, 1862, 235, part (Orizaba).

TYRANNUS DOMINICENSIS DOMINICENSIS (Gmelin).

GRAY KINGBIRD.

Adult male.—Above plain gray (about no. 6, inclining to smoke gray), the feathers of pileum with indistinct shaft-streaks of darker, the crown with a large concealed patch of orange or orange-red (orpiment orange to orange-chrome), underlaid laterally and posteriorly with white; upper tail-coverts deep grayish brown margined with gray or rusty brownish; tail dusky grayish brown, the rectrices margined terminally with pale brownish gray or dull whitish, their outer webs indistinctly edged with gray, the outermost narrowly edged with whitish; wings deep grayish brown, the lesser and middle coverts broadly margined with light gray, the greater coverts and secondaries edged with very pale gray or grayish white (the edgings broader and whiter on inner secondaries), the primary coverts and primaries dusky grayish brown, very narrowly edged with pale gray; loral region dusky intermixed with gray; auricular region dusky or dull blackish, with a few very narrow shaft-streaks of pale grayish; malar region and under parts white, the median portion of chest faintly shaded with pale gray passing into deeper gray (about no. 8 or no. 9) on sides of chest, sides, and flanks, the under tail-coverts usually tinged with pale yellow; axillars and under wing-coverts yellowish white or pale primrose yellow; inner webs of remiges edged with dull yellowish white; bill black; iris brown; legs and feet brownish black; length (skins), 202–229 (207); wing, 111–122 (116.2); tail, 82–100 (90.3); exposed culmen, 24.5–28 (26.1); tarsus, 17.5–19.5 (18.5); middle toe, 13.5–15 (14.3).[a]

Adult female.—Similar to the male and not always distinguishable as to coloration, but tips of longer primaries less distinctly attenuated, and orange crown-patch usually smaller; length (skins), 198–215

[a] Thirty-six specimens.

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(206); wing, 107.5–120 (113.2); tail, 80.5–92.5 (85.2); exposed culmen, 23–27.5 (25.3); tarsus, 17.5–19.5 (18.7); middle toe, 13.5–15.5 (14.5).[a]

Young.—Essentially like adults, but without orange on crown; gray of upper parts browner; upper tail-coverts broadly margined with rusty brown or chestnut, rectrices edged and terminally margined with cinnamon, lesser wing-coverts margined with cinnamon or cinnamon-buff, and other paler wing-markings more or less tinged with cinnamon.

West Indies in general, except more southern Lesser Antilles, and coast of Florida, South Carolina, and Georgia; coast of Central America and northern South America (perhaps only during migration), from Cozumel Island, Yucatan, to Venezuela; Dutch West Indies (in migration only?). [*Georgia:* St. Simons Island, breeding. *South Carolina:* Near Charleston, breeding. *Florida:* St. Augustine; Matanzas; Matanzas Inlet; Indian Pass; Key West; Nameless Key; Tortugas; Charlotte Harbor; Caloosahatchie River; Punta Rassa; Tarpon Springs. *Bahamas:* Great Bahama; Abaco; Biminis; Berry Islands; Eleuthera; New Providence; Andros; Exuma Keys; Watlings Island; Long Island; Green Cay; Acklin Island; Maraguna; Inagua; Cay Sal; Cay Lobos. *Greater Antilles:* Cuba; Isle of Pines;

[a] Nineteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from South Carolina (Sullivans Island)	121.5	87.5	27.5	19.5	15
Six adult males from Florida	120.3	91.9	26.8	18.8	14.6
Two adult males from Bahamas	111.5	90.8	26.5	18.8	14.3
Five adult males from Cuba	114.6	80.2	26.2	17.9	13.6
Eight adult males from Isle of Pines	115.8	86.9	25.9	18.3	14.3
Two adult males from Jamaica	117.5	89.5	27	18.8	14.5
One adult male from Haiti	112	88.5	25	19	14.5
Six adult males from Porto Rico	116.3	94.1	25.2	18.6	14.6
One adult male from St. Thomas	119	96	25.5	18	13.5
One adult male from Anegada	114.5	94.5	26	18.5	14.5
One adult male from Nicaragua (Greytown)	116.5	88	26	18.5	14
Two adult males from Venezuela (Margarita Island)	112.3	90	26.5	18.5	14.3
FEMALES.					
One adult female from South Carolina (Sullivans Island)	120	84.5	27	19	15
Two adult females from Florida	118.5	89	27.3	19.5	14.8
One adult female from Bahamas	109	83.5	26	18.5	14.5
Seven adult females from Cuba	110.9	82.6	24.6	18.4	14.3
Two adult females from Isle of Pines	113.8	83.5	25	19	14.5
One adult female from Jamaica	114.5	82.5	24.5	18.5	14
Three adult females from Porto Rico	112.8	89.3	24.7	18.7	14.3
One adult female from St. Johns	116.5	90	27	19.5	15.5
One adult female from Anegada	110.5	86.5	26	19	14

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Grand Cayman; Little Cayman; Cayman Brac; Jamaica; Haiti; Mona; Porto Rico; St. Thomas; St. Johns; Tortola; Virgin Gorda; Anegada; St. Croix. *Lesser Antilles:* Sombrero; Scrub Island; Anguilla; St. Martins; St. Bartholomew; St. Eustatius; Antigua; Guadeloupe. *Dutch West Indies:* Curaçao; Aruba; Bonaire. *Yucatan:* Cozumel Island. *Nicaragua:* Greytown. *Panama:* Lion Hill. *Colombia:* Cartagena; Santa Marta; Bonda; Bogota. *Venezuela:* Margarita Island (July); Quiribana de Caicará.]

[*Lanius tyrannus*] *β. dominicensis* GMELIN, Syst. Nat., i, pt. i, 1788, 302 (based on *Tyrannus dominicensis* Brisson, Orn., ii, 394, pl. 38, fig. 2; *Le Tyran, Tyran titiri* Daubenton, Pl. Enl., pl. 537).

Muscicapa dominicensis AUDUBON, Orn. Biog., ii, 1834, 392, pl. 46; Birds Am., oct. ed., i, 1840, 201, pl. 55.

Tyrannus dominicensis RICHARDSON, Rep. Sixth Meet. Brit. Assoc., v, 1837, 170.—BONAPARTE, Geog. and Comp. List, 1838, 25.—GOSSE, Birds Jamaica, 1847, 169.—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 172; Cat. N. Am. Birds, 1859, no. 125.—NEWTON, Ibis, 1859, 146 (St. Croix; habits).—CASSIN, Proc. Ac. Nat. Sci. Philad., 1860, 143 (Cartagena, Colombia), 375 (St. Thomas).—ALBRECHT, Journ. für Orn., 1862, 199 (Jamaica).—BRYANT, Journ. für Orn., 1866, 182 (Porto Rico); Proc. Bost. Soc. N. H., 1866, 248 (Porto Rico).—SUNDEVALL, Œfv. Vet.-Ak. Förh., 1869, 584, 599 (St. Bartholomew).—ALLEN, Bull. Mus. Comp. Zool., ii, no. 3, 1871, 300 (St. Augustine, Florida, May).—COUES, Check List, 1873, no. 243; 2d ed., 1882, no. 369.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 315, 319, pl. 43, fig. 8.—RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 470 (monogr.); vii, 1884, 172 (St. Thomas, W. I.); viii, 1885, 570 (Cozumel I., Yucatan); Nom. N. Am. Birds, 1881, no. 303; Auk, viii, 1891, 339 (Green Cay, Bahamas).—CORY, Bull. Nutt. Orn. Club, vi, 1881, 153 (Haiti); Birds Haiti and San Dom., 1885, 77; Auk, iii, 1886, 244; (descr., synon., etc.), 502 (Grand Cayman I.); vi, 1889, 31 (Little Cayman), 32 (Cayman Brac); vii, 1890, 375 (Tortola; Virgin Gorda); viii, 1891, 46 (Anguilla), 47 (Antigua; St. Eustatius), 48 (St. Croix), 49 (Guadeloupe), 296 (Biminis, Bahamas), 350 (Great Bahama; Abaco), 351 (Eleuthera; Inagua), 352 (Cay Sal); ix, 1892, 48 (Maraguna; Watlings I.); Birds West Ind., 1889, 131; Cat. West Ind. Birds, 1892, 108, 144, 155 (Bahamas; Greater Antilles; Scrub I., Anguilla, St. Bartholomew, St. Eustatius, Antigua, and Guadeloupe, Lesser Antilles).—BAILEY (H. B.), Bull. Nutt. Orn. Club, viii, 1883, 39 (Georgia, breeding; descr. nest and eggs).—TRISTRAM, Ibis, 1884, 168 (Santo Domingo).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 445.—SCOTT, Auk, vi, 1889, 318 (Punta Rassa, Tarpon Springs, Key West, etc., Florida); vii, 1890, 311 (Garden Key, Tortugas); ix. 1892, 213 (Caloosahatchie R., Florida, breeding); x, 1893, 177 (Jamaica).—NORTHROP, Auk, viii, 1891, 72 (Andros I., Bahamas; descr. nest and eggs).—BERLEPSCH, Journ. für Orn., 1892, 86 (Curaçao; crit.).—CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 302 (near Trinidad, s. Cuba).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Greytown, Nicaragua, com. in Mar.).—HARTERT, Ibis, 1893, 298 (Aruba), 301 (Aruba, Curaçao, and Bonaire; crit.), 319 (Curaçao; crit.), 328 (Bonaire).—GUNDLACH, Orn. Cub., 1893, 81.—WAYNE, Auk, xi, 1894, 178 (near Charleston, South Carolina, breeding).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 241, pl. 2, figs. 3, 4 (eggs).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 672 (Margarita I., Venezuela).—CHERRIE, Contr. Orn. San Dom., 1896, 18.—NEHRLING, Our Native Birds, ii, 1896, 342.—

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CHRISTY, Ibis, 1897, 327 (Santo Domingo; habits).—BANGS, Auk, xvii, 1900, 288 (New Providence, Bahamas).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 52 (Quiribana de Caicara, Venezuela; Bogota, Colombia).—CLARK, (A. H.), Auk, xix, 1902, 263 (Margarita I.).—BOWDISH, Auk, xx, 1903, 10 (Porto Rico; habits; descr. nests), 194 (Porto Rico; food).—BONHOTE, Ibis, 1903, 291 (Green Cay, Bahamas; habits).—ALLEN (G. M.), Auk, xxii, 1905, 127 (Bahamas; habits).—RILEY, Auk, xxii, 1905, 356 (Bahamas; habits).

T[yrannus] dominicensis BONAPARTE, Consp. Av., i, 1850, 192.—COUES, Key N. Am. Birds, 2d ed., 1884, 433; 5th ed., i, 1903, 514.—RIDGWAY, Man. N. Am. Birds, 1887, 329.

[*Tyrannus*] *dominicensis* COUES, Key N. Am. Birds, 1872, 170.—CORY, List Birds West Ind., 1885, 15.—SHARPE, Hand-list, iii, 1901, 149.

Tyrannus dominicensis dominicensis BANGS and ZAPPEY, Am. Nat., xxxix, Apr., 1905, 207 (Isle of Pines).

Tyrannulus dominicensis JARDINE, Contr. Orn., 1850, 67 (Bermudas).

Melittarchus dominicensis CABANIS, Journ. für Orn., 1855, 478.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 307 (Cuba).

M[elittarchus] dominicensis CABANIS and HEINE, Mus. Hein., ii, 1859, 80, footnote (Haiti; Cuba).

[*Melittarchus*] *dominicensis* GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).

Tyrannus griseus VIEILLOT, Ois. Am. Sept., i, 1807, 76, pl. 46 (new name for *Lanius dominicensis* Gmelin).—SWAINSON, Quart. Journ. Sci., xx, 1826, 276; (?) Philos. Mag., n. s., i, 1827, 368 (Mexico).—SCLATER, Cat. Am. Birds, 1862, 236 (Jamaica); Cat. Birds Brit. Mus., xiv, 1888, 271 (Panama; Santa Marta, Colombia, etc.).—MARCH, Proc. Ac. Nat. Sci. Philad., 1863, 287(Jamaica).—TAYLOR, Ibis, 1864, 169 (Porto Rico).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 98 (Sombrero), 1865, 182 (Greytown, Nicaragua).—BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 90 (Santo Domingo).—CORY, Birds Bahama I., 1880, 99; Bull. Nutt. Orn. Club, vi, 1881, 153 (Haiti).—SALVIN and GODMAN, Ibis, 1880, 125 (Santa Marta, Colombia); Biol. Centr.-Am., Aves, ii, 1889, 98.—SALVIN, Cat. Strickland Coll., 1882, 317 (Jamaica); Ibis, 1889, 363 (Cozumel I., Yucatan; geog. range).—BONHOTE, Ibis, 1899, 513 (New Providence, Bahamas); Auk, xviii, 1901, 148 (Cay Lobos, Bahamas); xx, 1903, 173 (Cay Lobos).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 142 (Bonda, Santa Marta, Colombia); xxi, 1905, 276 (Bonda, Oct.).

T[yrannus] griseus GRAY, Gen. Birds, i, 1847, 247.—BONAPARTE, Consp. Av., i, 1850, 192.

[*Tyrannus*] *griseus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.

Melittarchus griseus GUNDLACH, Journ. für Orn., 1872, 422 (Cuba; habits); 1874, 311 (Porto Rico); 1878, 159 (Porto Rico); Anal. Soc. Esp. Hist. Nat., vii, 1878, 192 (Porto Rico).

T[yrannus] matutinus VIEILLOT, Tabl. Enc. Méth., ii, 1823, 850 (based on *Lanius tyrannus*, var. A. Latham; *Tyran de Saint Domingue* Brisson; etc.).—GRAY, Gen. Birds, i, 1847, 247.

Tyrannus matutinus D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 83, pl. 14.—BONAPARTE, Consp. Av., i, 1850, 192 (Antilles).—SALLÉ, Proc. Zool. Soc. Lond., 1857, 232 (Santo Domingo).

Tyrannus tiriri TEMMINCK, Tabl. Méth., 1836, 24 (based on *Tyran tiriri* Daubenton, Pl. Enl., pl. 537, = young?).

Tyrannus rostratus (not of Sclater, 1864) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 361 (Lion Hill, Panama R. R.).

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TYRANNUS DOMINICENSIS VORAX (Vieillot).

LARGE-BILLED KINGBIRD.

Similar to *T. d. dominicensis*, but averaging larger, with relatively much larger bill, gray of upper parts slightly darker, and axillars and under wing-coverts less strongly yellowish.

Adult male.—Length (skins), 221–246 (230); wing, 112–121.5 (118.1); tail, 91–100 (94.7); exposed culmen, 26.5–31 (29); tarsus, 18.5–20 (18.9); middle toe, 14.5–15 (14.9).[a]

Adult female.—Length (skins), 207–236 (229); wing, 107.5–118.5 (114.3); tail, 86–95 (90); exposed culmen, 27.5–31.5 (29); tarsus, 18–20 (19); middle toe, 14–15.5 (14.6).[b]

More southern Lesser Antilles (St. Eustatius;[c] Barbuda; Antigua; Grand Terre; Dominica; Martinique; Santa Lucia; St. Vincent; Carriacou; Grenada; Grenadines; Barbados); Island of Trinidad.

Tyrannus vorax VIEILLOT, Nouv. Dict. d'Hist. Nat., XXXV, 1819, 90 (Martinique).

Tyrannus magnirostris (not of D'Orbigny) SCLATER, Cat. Am. Birds, 1862, 236 (Cuba?); Ibis, 1867, 108 (Trinidad; crit.).—LÉOTAUD, Ois. Trinidad, 1866, 215.

Tyrannus rostratus SCLATER, Ibis, vi, Jan., 1864, 87, footnote (Martinique, Lesser Antilles?; coll. P. L. Sclater); Proc. Zool. Soc. Lond., 1871, 272 (Santa Lucia; crit.); 1889, 326 (Dominica); 1892, 499 (Anguilla).—TAYLOR, Ibis, 1864, 87 (Trinidad).—SEMPER, Ibis, 1871, 272 (Santa Lucia); 1872, 651 (Santa Lucia; habits).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 60 (Dominica; descr. nest and eggs), 191 (St. Vincent), 234 (Antigua; habits), 240 (Barbuda), 271 (Grenada; habits), 358 (Martinique).—RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 470 (monogr.); xii, 1890, 130 (Santa Lucia).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 167 (Santa Lucia).—LISTER, Ibis, 1880, 41 (St. Vincent).—CORY, Auk, iii, 1886, 243 (descr., synonymy, etc.); Ibis, 1886, 473 (St. Vincent), 475 (Grand Terre); Birds West Ind., 1889, 129; Cat. West Ind. Birds, 1892, 13, 108 (Barbuda; Antigua; Dominica; Martinique; St. Vincent; Grenada; Barbados).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 618 (Grenada; habits; descr. nest and eggs); Auk, xix, 1902, 346 (Carriacou; habits; descr.

[a] Eleven specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight males from northern Lesser Antilles (St. Eustatius, Barbuda, and Antigua)	117.3	94	28.8	18.6	14.9
Three males from southern Lesser Antilles (Grenada and Dominica)	120.3	96.5	29.8	19.7	14.7
FEMALES.					
Six adult females from northern Lesser Antilles (St. Eustatius, Barbuda, and Antigua)	113.2	89.6	28.7	19	14.4
Four adult females from southern Lesser Antilles (Grenada, Santa Lucia, and Dominica)	116.1	90.8	29.5	19.1	15

[c] *T. d. dominicensis* also occurs on these islands, but probably only as a straggler.

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nest and eggs).—Feilden, Ibis, 1889, 486 (Barbados; habits; descr. eggs).—Verrill, Trans. Conn. Ac. Arts and Sci, viii, 1892, 335 (Dominica; habits).—Chapman, Bull. Am. Mus. N. H., vi, 1894, 44 (Trinidad).—Nicoll, Ibis, 1904, 561 (Santa Lucia), 564 (Grand Étang, Grenada), 570 (Dominica), 575 (St. Croix).—Hellmayr, Novit. Zool., xiii, 1906, 27 (Seelet and Laventille, Trinidad; crit.).

[*Tyrannus*] *rostratus* Gray, Hand-list, i, 1869, 365, no. 5559.—Sclater and Salvin, Nom. Av. Neotr., 1873, 53.—Cory, List Birds West Ind., 1885, 16.—Sharpe, Hand-list, iii, 1901, 149.

T[*yrannus*] *dominicensis rostratus* Berlepsch, Journ. für Orn., Jan., 1892, 86, in text.—Hartert, Novit. Zool., ix, 1902, 301, in text.

Tyrannus dominicensis rostratus Riley, Smithson. Misc. Coll., xlvii, 1904, 287 (Barbuda; Antigua; crit.).—Clark (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 276 (Barbados; St. Vincent; Grenada; Grenadines; notes; descr. eggs).

TYRANNUS CUBENSIS Richmond.

GIANT KINGBIRD.

Adult male.—Pileum and hindneck dark sooty brown (dark sepia to nearly black), the crown with a concealed patch of bright orange or orange-red (orpiment orange to orange-chrome) underlaid laterally and posteriorly with white; back, rump, scapulars, and lesser wing-coverts plain deep brownish gray or grayish brown; upper tail-coverts browner, more or less distinctly margined with paler grayish brown; tail dark grayish brown or dusky, the rectrices margined terminally with pale grayish brown or dull whitish, their outer webs narrowly or indistinctly edged with the same; wings deep grayish brown or dusky, the middle and posterior row of lesser coverts broadly margined terminally with pale grayish or dull white, the greater coverts and secondaries edged with the same (the edgings much broader on inner secondaries), the primary coverts and primaries more narrowly edged with pale grayish; lores mixed gray and dusky; suborbital and auricular regions sooty blackish; malar region white, more or less flecked with dusky; under parts white, passing into very pale gray on sides of chest, sides, and flanks; axillars and under wing-coverts yellowish white or pale primrose yellow; inner webs of remiges edged with dull yellowish white; bill black, the mandible sometimes more brownish basally; iris brown; legs and feet black; length (skins), 243–263 (251); wing, 130–138.5 (133.9); tail, 94.5–104 (98.4); exposed culmen, 31–35 (33.2); tarsus, 21–23 (22.3); middle toe, 18–19.5 (18.9).[a]

[a] Seventeen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult (male?) from Bahamas (particular island unknown)	135	97	34	23	19
Eleven adult males from Cuba	133.7	98.5	33.1	22.1	19
Five adult males from Isle of Pines	134.1	98.6	33.7	22.5	18.7

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Adult female.—Similar to the adult male but orange crown-patch usually smaller and tips of outer primaries indistinctly attenuated; length (skins), 234–260 (241); wing, 123.5–131 (128.4); tail, 90.5–95 (93.2); exposed culmen, 31–36 (33.4); tarsus, 21–22.5 (22); middle toe, 17.5–18.5 (18).[a]

Island of Cuba (including Isle of Pines), Greater Antilles; more southern Bahama Islands (Great Inagua; North Caicos; East Caicos; Grand Caicos); accidental on Mujeres Island, Yucatan.

(?) *Tyrannus matutinus*, VIEILLOT, Tabl. Enc. Méth., ii, 1823, 850, part.

Tyrannus magnirostris (not of Swainson, 1831) D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 80, pl. 13 (Cuba).—BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 66 (Inagua, Bahamas).—GUNDLACH, Journ. für Orn., 1872, 421; Orn. Cub., 1893, 80.—RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 469 (monogr.).—CORY, Birds Bahama I., 1880, 99; Auk, iii, 1886, 243; viii, 1891, 297 (Caicos and Inagua, Bahamas); Birds West Ind., 1889, 130; Cat. West Ind. Birds, 1892, 108 (North Caicos, Grand Caicos, East Caicos, and Great Inagua islands, Bahamas; Cuba; Isle of Pines).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 273 (Cuba; Mujeres I., Yucatan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 103.—SALVIN, Ibis, 1889, 363 (Mujeres I., Yucatan, Feb.).—CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 302 (San Pablo, s. Cuba).

T[yrannus] magnirostris BONAPARTE, Consp. Av., i, 1850, 192.—RIDGWAY, Man. N. Am. Birds, 1887, 328.

[*Tyrannus*] *magnirostris* GRAY, Hand-list, i, 1869, 365, no. 5558.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—CORY, List Birds West Ind., 1885, 16.

Melittarchus magnirostris CABANIS, Journ. für Orn., 1855, 447.—BREWER, Proc. Bost. Soc., vii, 1860, 307.—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1865, 238; Journ. für Orn., 1872, 421 (Cuba; habits).

M[elittarchus] magnirostris CABANIS and HEINE, Mus. Hein., ii, 1859, 80 (Cuba).

[*Melittarchus*] *magnirostris* GUNDLACH, Journ. für Orn., 1861, 328 (Cuba).—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 147.

Tyrannus cubensis RICHMOND, Auk, xv, Oct., 1898, 330 (to replace *Tyrannus magnirostris* D'Orbigny, preoccupied).—BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 207 (Isle of Pines; food.)

[*Tyrannus*] *cubensis* SHARPE, Hand-list, iii, 1901, 149.

TYRANNUS CRASSIROSTRIS Swainson.

THICK-BILLED KINGBIRD.

Adult male.—Pileum deep grayish brown, the crown with a concealed patch of lemon or canary yellow, underlaid posteriorly and laterally by white; hindneck lighter and much more grayish brown; back, rump, scapulars, and lesser wing-coverts plain grayish olive; upper tail-coverts grayish brown, margined, more or less distinctly, with more rusty brown or cinnamon; tail deep grayish brown, the rectrices edged (rather indistinctly) with paler; wings deep grayish brown, the middle and posterior lesser coverts narrowly margined

[a] Four specimens.

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with pale buffy brown or cinnamon, the greater coverts and remiges narrowly edged with very pale brownish or dull whitish (sometimes tinged with cinnamon on greater coverts); lores mixed grayish and dusky; suborbital and auricular regions deep grayish brown (like pileum); malar region, chin, and throat white, passing into very pale gray on chest; rest of under parts pale canary or deep primrose yellow, the sides and flanks faintly tinged with pale olive; axillars and under wing-coverts rather dull primrose yellow; inner webs of remiges edged with yellowish white; maxilla blackish brown or brownish black; mandible dark brown, slightly paler basally; iris brown; legs and feet brownish black; length (skins), 223–235 (230); wing, 132–136 (134); tail, 99.5–103.5 (101.4); exposed culmen, 24.5–28 (26.7); tarsus, 19.5–21 (20.2); middle toe, 15–17 (16.3).[a]

Adult female.—Similar to the male and not always distinguishable as to coloration, but tips of longer primaries very slightly attenuated and yellow crown-patch usually narrower; length (skins), 211–238 (222); wing, 126–135 (130); tail, 94.5–100 (97.6); exposed culmen, 23.5–25.5 (24.8); tarsus, 19–20.5 (19.7); middle toe, 14.5–17 (15.9).[b]

Young.—Similar to adults, but crown without yellow, retrices broadly edged and terminally margined with cinnamon or cinnamon-buff, and wing-coverts margined and edged with the same.

Western and southern Mexico, in States of Sinaloa (Mazatlan; Culiacan; Escuinapa; Sauz; Plomosas), Jalisco (Bolaños), Colima (Plains of Colima), Guerrero (Acahuitzotla; Chilpancingo; Omilteme), Morelos (Cuernavaca), Puebla (Chietla), and Oaxaca (Tehuantepec; Tapana; Chihuitan; Cacoprieto; Los Cues; Cerro San Felipe), and western Guatemala (Escuintla).

Tyrannus crassirostris SWAINSON, Quart. Journ. Sci., xx, no. xl., Jan., 1826, 273 ("warm districts of Mexico"); Philos. Mag., n. s., i, 1827, 368.—SCLATER, Ibis, 1859, 439 (Mazatlan, etc.); Proc. Zool. Soc. Lond., 1862, 19 (Oaxaca); Cat. Am. Birds, 1862, 236 (Mazatlan); Cat. Birds Brit. Mus., xiv, 1888, 271 (Mazatlan; near City of Mexico; Cacoprieto, Oaxaca; Escuintla, Guatemala).—SCLATER and SALVIN, Ibis, 1860, 399 (Escuintla, w. Guatemala).—LAWRENCE Mem. Bost. Soc. N. H., ii, 1874, 288 (Mazatlan; habits); Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Chihuitan and Los Cues, Oaxaca).—RIDGWAY, Proc. U. S. Nat. Mus., i, 1879, 472 (monogr.).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 155 (Chietla, Puebla).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, i, 1889, 103 (Sauz, Sinaloa; Chilpancingo, Omilteme, and Acahuizotla, Guerrero, etc.).—LANTZ, Trans. Kansas Ac. Sci. for 1896–97 (1899), 221 (Culiacan, Sinaloa.)—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 358 (Escuinapa, etc. Sinaloa).

T[yrannus] crassirostris BONAPARTE, Consp. Av., i, 1850, 192 ("Brazil").—RIDGWAY, Man. N. Am. Birds, 1887, 329.

[*Tyrannus*] *crassirostris* GRAY, Hand-list, i, 1869, 365, no. 5556.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—SHARPE, Hand-list, iii, 1901, 149.

[a] Six specimens. [b] Seven specimens.

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Melittarchus crassirostris CABANIS, Journ. für Orn., 1855, 478.

M[elittarchus] crassirostris CABANIS and HEINE, Mus. Hein., ii, 1859, 80, footnote (Mexico).

[*Melittarchus*] *crassirostris* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 147 (Mazatlan).

Megarhynchus crassirostris FINSCH, Abh. Nat. Bremen, 1870, 329 (Mazatlan).

Genus MUSCIVORA Lacépède.

Muscivora LACÉPÈDE, Discours du Cours d'Hist. Nat., 1799, 5. (Type, as fixed by Fischer, Zoognasia, i, 1813, 54, *Muscicapa forficata* Gmelin.)

Milvulus SWAINSON, Zool. Journ., iii, July, 1827, 165. (Type, *Tyrannus savanna* Vieillot, = *Muscicapa tyrannus* Linnæus.)

Despotes REICHENBACH, Av. Syst. Nat., 1850, pl. 66. (Type, *Muscicapa tyrannus* Linnæus.)

Medium sized Tyrannidæ (wing about 104–130 mm.), similar in structure to the smaller-billed species of *Tyrannus*, but tail excessively forked, the lateral rectrices much longer than the wing and more than twice as long as middle pair.

Bill decidedly shorter than head, moderately broad and depressed basally, its width at frontal antiæ equal to half the length of exposed culmen (in *M. forficata*) or much more (*M. tyrannus*), about one and a half times its depth at same point, the vertical profile wedge-shaped, with straight lateral outlines; exposed culmen nearly as long as tarsus (in *M. forficata*) or only as long as middle toe without claw (*M. tyrannus*), rather indistinctly ridged (especially in *M. forficata*), straight for most of its length, rather abruptly decurved terminally, the tip of maxilla distinctly uhcinate; gonys much longer than mandibular rami, faintly convex; maxillary tomium nearly straight, distinctly notched subterminally. Nostril partly exposed, rather small, obliquely broadly oval. Rictal bristles strong but rather short; feathers of latero-frontal antiæ with very distinct bristly tips, arching over and extending much beyond nostrils; malar antiæ with distinct antrorse or semierect bristles; feathers of chin with (or without?) minute recurved bristly tips. Wing long and pointed, the longest primaries exceeding distal secondaries by one-third to two-fifths the total length of wing; ninth, or seventh, eighth, and ninth, primaries longest, the tenth (outermost) longer than seventh (or else the latter as long as eighth and ninth); eighth, ninth, and tenth primaries (in *M. tyrannus*), or tenth primary alone (in *M. forficata*), abruptly attenuated terminally. Tail longer than wing and deeply forked (excessively so in adult males), the lateral rectrices more than twice (sometimes more than four times) as long as middle pair, the latter shorter than distance from bend of wing to end of distal secondaries (nearly as long in *M. tyrannus*). Tarsus slightly more than one-seventh as long as wing, stout, its scutellation typically exaspidean, the

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acrotarsial scutella distinct, the outer side with (*M. tyrannus*) or without (*M. forficata*) a separate series of smaller scutella along the upper posterior margin; basal phalanx of middle toe united to outer toe for a little to decidedly more than half its length, to inner toe for about half its length; outer toe, without claw, reaching to about middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux shorter than inner toe, its claw shorter than the digit; all the claws moderate in size and curvature, sharp.

Coloration.—(*a*) Pale gray above, the dorsal region tinged with red; wings dusky with pale grayish edgings; tail with black prevailing on eight middle rectrices, the two outer pairs pale pink or salmon color extensively tipped with black; under parts very pale gray, passing into white on throat and pale orange-red or salmon color on flanks, under tail-coverts, etc.; a large concealed patch of orange-red on each side of breast and a small concealed spot of same in center of crown (*M. forficata*). (*b*) Pileum and sides of head black, the crown with a large concealed patch of bright yellow; back and scapulars light bluish gray; wings dusky with light gray edgings; tail black, the lateral rectrices edged basally with white; under parts entirely white (*M. tyrannus*).

Nidification.—Nest open above, composed of various materials (according to locality), placed in a small tree. Eggs white or pale cream color, boldly spotted with rich reddish brown, lavender, etc.

Range.—Southwestern United States (east of Rocky Mountains) to Argentina. (Two species.)

KEY TO THE SPECIES OF MUSCIVORA.

a. Outermost rectrix little, if any, longer than the next, the three outer rectrices extensively white; tenth primary, only, attenuated at tip; pileum and hindneck pale gray, the former with a small orange-red crown-spot; an axillary patch of orange-red. (*Muscivora.*) (Southwestern United States to Panama.)
Muscivora forficata (p. 715)

aa. Outermost rectrix much longer than the next, all the rectrices black (the outermost edged with white); eighth, ninth, and tenth primaries attenuated at tip; pileum and hindneck black, the former with a large crown-patch of lemon-yellow; axillary region wholly white. (*Milvulus.*) (Mexico to Argentina, Paraguay, etc.) ..... **Muscivora tyrannus** (p. 718)

MUSCIVORA FORFICATA (Gmelin).

SCISSOR-TAILED FLYCATCHER.

Adult male.—Pileum and hindneck clear pale gray (no. 8 to no. 10), the center of crown with a small concealed patch of orange-red, underlaid posteriorly and laterally by white; back and scapulars light gray, usually more or less strongly suffused with pinkish vinaceous or ocher-yellowish (more commonly the former), the scapulars and lower back sometimes almost uniformly the former color; rump brownish gray,

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the feathers darker centrally or with darker shaft-streaks; upper tail-coverts black or dusky, margined, more or less distinctly, with grayish; six middle rectrices black, margined terminally with pale grayish brown or whitish; three outermost rectrices (on each side) white (usually more or less strongly tinged with salmon-pink, sometimes deeply of this color), the terminal portion mostly black, this occupying between terminal third and terminal half of third rectrix; wings dusky, the anterior lesser coverts broadly margined with gray, the posterior lesser coverts and middle coverts margined terminally with paler gray or grayish white, the greater coverts and secondaries edged with grayish white (sometimes tinged with pinkish), the primaries narrowly edged with light gray; lores mixed dusky and whitish; upper portion of auricular region varying from light gray like pileum) to dusky; malar region, suborbital region, chin, and throat white, shading into very pale gray (paler than no. 10) on chest and breast; sides and flanks salmon color or salmon-pink to almost saturn red, the under tail-coverts similar but much paler and more pinkish; axillars and pre-axillar patch bright orange-red (flame scarlet to scarlet); under wing-coverts salmon-color or salmon-pink; inner webs of remiges broadly edged with dull pinkish white; maxilla deep horn brown, darker terminally, maxilla lighter brown basally; iris brown; legs and feet dusky brown; length (skins), 315–367 (337); wing, 121–129 (124.5); tail, 200–256 (225.5); exposed culmen, 17–19 (17.9); tarsus 17.5–19 (18.3); middle toe, 13–14.5 (14).[a]

Adult female.—Similar to the male, but lateral rectrices much less elongated and coloration usually decidedly duller, the sides, flanks, under wing-coverts, etc., much paler salmon color (sometimes very pale orange-buff), axillary patch more restricted and more orange, concealed crown-spot obsolete or wanting, and third rectrix mostly black or dusky; length (skins), 260–295 (276); wing, 111.5–119.5 (115.6); tail, 125.5–182 (159.7); exposed culmen, 16–18 (17.3); tarsus, 18–18.5 (18.2); middle toe, 13–14.5 (13.6).[b]

Young (sex not determined).—Somewhat like the paler or duller colored adult females, but gray of upper parts decidedly brownish (pale drab-gray), the crown darker, and without trace of concealed spot; sides, flanks, abdomen, and under tail-coverts uniform, very pale cream-buff; no orange axillary patch.

Southern Texas to southern Kansas; less commonly in southwestern Missouri, western Arkansas, and western Louisiana; southward, during migration, through eastern Mexico and central America to northern Panama; accidental in Illinois,[c] Florida (Key West, five specimens, January 15, 1885; Cape Sable, March 2, 1885; Miami), Vir-

[a] Ten specimens.

[b] Six specimens.

[c] Bendire, Life Hist. N. Am. Birds, ii, 1895, 223.

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ginia (Norfolk, January 2, 1882; Azlett, Prince William County, August 31, 1895), Maryland (Bryans Point, August), New Jersey (Trenton), Connecticut (Wauregan), Vermont (St. Johnsbury), Manitoba (Portage la Prairie, October, 1884), Keewatn (York Factory, summer of 1880) and even in Mackenzie River Valley.[a] Mexican and Central American records: *Tamaulipas* (Soto la Maria; Tampico). *Nuevo Leon* (San Antonio; San Augustin; Vaqueria). *Puebla* (Huexotitla). *Vera Cruz* (Jalapa; Otrobanda; Mirador; Hacienda de los Atlixcos). *Oaxaca* (Tehuantepec; Chihuitan). *Chiapas* (Tapachula). *Guatemala* (Choctum; Coban; San Gerónimo; Santa Ysabel, near San José; Dueñas). *Salvador* (Acajutla). *Honduras* (Langui). *Nicaragua* (Chontales; San Juan del Sur; Sucuyá; Chinandega; Managua). *Costa Rica* (Gulf of Nicoya; San José; Volcan de Miravalles; Pigres; Santo Domingo de San Mateo). *Panama* (Divala).

[*Muscicapa*] *forficata* GMELIN, Syst. Nat., i, 1788, 931 (based on (*Gobe-mouche à queue fourchue, du Mexique*, Daubenton, Pl. Enl., pl. 677).

Muscicapa forficata VIEILLOT, Ois. Am. Sept., i, 1807, 71.—STEPHENS, Shaw's Gen. Zool., x, 413, pl. 3.—BONAPARTE, Am. Orn., i, 1825, 15, pl. 2, fig. 1; Synop. Birds U. S., 1828, 275.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 275.—AUDUBON, Orn. Biog., iv, 1838, 436, pl. 359, fig. 3.

Tyrannus forficatus TEMMINCK, Tabl. Méth., 1820, 24.—SAY, Long's Exp. Rocky Mts., ii, 1823, 224.—NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 309.—CABANIS, Journ. für Orn., 1857, 241 (Cuba).

Milvulus forficatus SWAINSON, Classif. Birds, ii, 1837, 225.—BONAPARTE, Geog. and Comp. List, 1838, 25.—AUDUBON, Synopsis, 1839, 38; Birds Am., oct. ed., i, 1840, 197, pl. 53.—MCCALL, Proc. Ac. Nat. Sci. Philad., 1851, 216 (near Lavaca, s. w. Texas, Dec.).—WOODHOUSE, Rep. Sitgreaves' Exp. Zuñi and Colorado R., 1853, 73 (Texas; Indian Territory).—SCLATER, Proc. Zool. Soc. Lond., 1857, 204 (Jalapa, Vera Cruz); 1859, 439 (whole of Mexico; Guatemala; Honduras); Cat. Am. Birds, 1862, 237 (Mexico; Choctum, Guatemala); Cat. Birds, Brit. Mus., xiv, 1888, 279 (Coban and Dueñas, Guatemala; Sucuyá, Nicaragua; Costa Rica).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 169; Cat. N. Am. Birds, 1859, no. 123; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 7 (Eagle Pass, Texas; Tamaulipas).—SCLATER and SALVIN, Ibis, 1859, 121 (Guatemala).—TAYLOR, Ibis, 1860, 114 (Langui, Honduras; habits).—CABANIS, Journ. für Orn., 1861, 252 (Costa Rica).—DRESSER, Ibis, 1865, 472 (w. Texas, east to the Guadalupe R.; San Antonio, Mar. to Oct.; habits).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 556 (Vera Cruz).—SALVIN, Ibis, 1872, 318 (Chontales, Nicaragua).—SNOW, Birds Kansas, 1873, 3 (Fort Riley, Kansas).—ABBOTT, Am. Nat., vi, 1872, 367 (Trenton, New Jersey, accidental).—COUES, Check List, 1873, no. 241; 2d ed., 1882, no. 367; Birds North-west, 1874, 235.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 311, pl. 43, fig. 1.—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Chihuitan and Tehuantepec City, Oaxaca).—PURDIE, Bull. Nutt. Orn. Club, ii, 1877, 21 (Wauregan, Connecticut, accidental).—MCCAULEY, Bull. U. S. Geol. and Geog. Surv. Terr., iii, 1877, 670 (Red River Valley, n. Texas, breeding; habits; descr., nest and eggs).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, no. 1, 1878, 30 (Brownsville and Hi-

[a] Bendire, Life Hist. N. Am. Birds, ii, 1895, 233.

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dalgo, Texas; habits; measurements); v, 1879, 401 (Point Isabel and Lomita, Texas).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 65 (San José, Costa Rica).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 137 (Fort Brown, Texas; habits, etc.)—RIDGWAY, Nom. N. Am. Birds, 1881, no. 301; Bull. Nutt. Orn. Club, viii, 1883, 59 (Norfolk, Virginia, 1 spec., Jan. 2, 1882); Auk, iii, 1886, 134 (Key West, Florida, 1 spec., Jan. 15, 1885).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 168 (s. e. Texas; habits); Our Native Birds, ii, 1896, 333, pl. 32, fig. 1.—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 374, 384 (San Juan del Sur and Sucuyá, Nicaragua; habits).—SETON, Auk, ii, 1885, 218 (Portage la Prairie, w. Manitoba, 1 spec., Oct., 1884; York Factory, Hudson Bay, 1 spec., summer 1880); iii, 1886, 321 (Portage la Prairie).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1889, 155 (Huehuetlan, Puebla).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 443.—Goss, Auk, iii, 1886, 134 (Cape Sable, Florida, 1 spec., Mar. 2, 1885).—COOKE, Bird Migr. Miss. Val., 1888, 142 (Mississippi Valley range, dates, etc.; Portage la Prairie, Manitoba, accidental).—SCOTT, Auk, vi, 1889, 161 (Key West, Florida, five specimens, Dec. 10, 1888), 318 (Miami, Florida, 1 spec., no date).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 106.—STONE, Birds E. Penn. and N. J., 1894, 99 (Trenton, New Jersey).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 233, pl. 1, figs. 12, 13 (eggs).—PALMER (W.), Auk, xiii, 1896, 83 (Azlett, Prince William Co., Virginia, 1 spec., Aug. 31, 1895; Bryans Point, Maryland, 1 spec., Aug.).—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, and Bagaces, Costa Rica).—BANGS, Auk, xviii, 1901, 363 (Divala, Panama, Nov., Dec.).—HOWE, Contr. N. Am. Orn., ii, 1902, 15 (St. Johnsbury, Vermont, 1 spec., 1884).—ALFARO, Paginas Illustradas, i, 1904, 506 (Costa Rica; habits).

[*Milvulus*] *forficata* BONAPARTE, Consp. Av., i, 1850, 192.

[*Milvulus*] *forficatus* GRAY, Hand-list, i, 1869, 365, no. 5563.—COUES, Key N. Am. Birds, 1872, 169.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.

M[*ilvulus*] *forficatus* CABANIS and HEINE, Mus. Hein., ii, 1859, 79 (Mexico).—COUES, Key N. Am. Birds, 2d ed., 1884, 431; 5th ed., i, 1903, 512.—RIDGWAY, Man. N. Am. Birds, 1887, 328.

Muscivora forficata OBERHOLSER, Auk, xviii, Apr., 1901, 194.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 320.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 246 (plate).—PREBLE, North Am. Fauna, no. 22, 1902, 113 (York Factory, 1 spec., summer of 1880).

[*Muscivora*] *forficatus* SHARPE, Hand-list, iii, 1901, 150.

Ty[*rannus*]? *mexicanus* STEPHENS, Shaw's Gen. Zool., xiii, pt. 2, Feb., 1826, 134 (based on "*Muscicapa forficata* Stephens, v, x, p. 413, pl. 33").

MUSCIVORA TYRANNUS (Linnæus).

SWALLOW-TAILED FLYCATCHER.

Adult male.—Pileum, hindneck, and sides of head (down to upper margin of malar region) uniform deep black, the crown with a very large concealed patch of bright lemon or canary yellow, underlaid posteriorly and laterally by pale yellow or yellowish white; back and scapulars plain clear, rather light gray (about no. 8 to no. 7),[a] the lower rump similar but darker; upper tail-coverts dull black or dusky, usually margined narrowly with grayish; tail black, the lateral rectrix

[a] The color is paler and clearer in freshly molted plumage, darker and duller when the plumage becomes old and worn.

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broadly edged for basal half (more or less) with white; wings dusky grayish brown, the lesser and middle coverts broadly margined with light gray, the greater coverts, remiges, and primary coverts narrowly edged with the same (the edgings sometimes white or nearly so on inner secondaries); malar region and entire under parts, including axillars and under wing-coverts, pure white; inner webs of remiges broadly edged with dull yellowish white; bill black, more brownish basally, especially on mandible; iris brown; legs and feet brownish black; length (skins), 325–410 (366); wing, 104–120 (111.1); tail, 230–303 (264.9); exposed culmen, 14–17 (15.4); tarsus, 16–18.5 (17.2); middle toe, 11.5–14.5 (12.7).[a]

Adult female.—Similar to the male and apparently not always distinguishable, but usually with lateral rectices less elongated and yellow crown-patch smaller; length (skins), 267–315 (294); wing, 100–107 (103.3); tail, 173–220.5 (201.7); exposed culmen, 15–16.5 (15.8); tarsus, 16.5–17.5 (17.1); middle toe, 11–13 (12.4).[b]

Young.—Somewhat like adults but black of head replaced by dark grayish brown or sooty brown, the crown without concealed yellow; gray of back, etc., duller (more or less decidedly brownish); feathers of rump and upper tail-coverts, as well as lesser and middle wing-coverts, margined with cinnamon or brownish buffy, the greater coverts edged with same.

[a] Twelve specimens.

[b] Eight specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Costa Rica	110.8	281.3	15	17.2	12.3
Three adult males from Panama (2) and Colombia (1)	106.2	262.7	15.8	16.5	12.3
One adult male from Trinidad	120	276	.....	17	13
Five adult males from Argentina (4) and southwestern Brazil (1)	112.5	254.2	15.5	17.7	13
FEMALES.					
Three adult females from Costa Rica	102.8	211.5	15.5	16.8	11.5
Three adult females from Colombia	101.7	202	15.8	17.2	12.4
Two adult females from Argentina and southern Brazil	106.5	186.8	16.3	17.5	13

I am not able to separate satisfactorily Central American and Mexican specimens from those coming from southern Brazil, Argentina, etc. The former unquestionably have the gray of the back decidedly paler and clearer than the majority of the latter, but among the more southern specimens are occasional ones which are precisely like northern ones in this respect. Furthermore, specimens from the lower Amazon, Guiana, and Venezuela, exhibit both extremes in regard to color of the back, those examined from Trinidad, Tobago, and Grenada being of the darker style. On the whole I am inclined to consider the variations as due to age or condition of the plumage rather than to climatic or environal influence, though it is not impossible that a satisfactory series might show that two forms can be made out.

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Southern Mexico and southward through Central America and over practically the whole of tropical and subtropical South America, as far as plains of Argentina, Uruguay, and northern Patagonia; Grenada and Carriacou, Lesser Antilles; accidental in Mississippi,[a] Kentucky,[a] New Jersey (Camden; Bridgeton), southern California,[b] and in Bermudas. [*Vera Cruz:* Playa Vicente; Tlalcotalpam. *Oaxaca:* (No precise locality cited). *Guatemala:* Poctum (Peten); San Gerónimo; Estansuelos. *British Honduras:* Belize; Old River and Pine Ridge near Belize; Saddle Cay; Half Moon Cay. *Honduras:* Omoa; Comayagua; Lake Yojoa; Langui; Agua Azul. *Nicaragua:* Chontales; San Juan del Sur. *Costa Rica:* San José; Alajuela; Volcan de Irazú; Volcan de Miravalles; Turrialba; Bonilla; Guayabal; Orosí. *Panama:* Lion Hill; Divala; David; Castillo; Calovevora; Calobre; Santiago; Santa Fé de Veragua. *Lesser Antilles:* Grenada; Carriacou.]

[*Muscicapa*] *tyrannus* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 325 (Surinam; based on *Tyrannus cauda bifurca* BRISSON, Orn., ii, 395, pl. 39, fig. 3).

M[*uscicapa*] *tyrannus* LICHTENSTEIN, Verz. Doubl., 1823, 52 (Brazil).

Muscicapa tyrannus MAXIMILIAN, Beitr. Naturg. Bras., iii, pt. ii, 1831, 34.

Tyrannus tyrannus D'ORBIGNY, Voy. Amer. Mérid., iv, pt. 3 (Ois.), 1839, 310 (Province Chiquitos and Moxos, Bolivia; Province Corrientes and Entre Rios, Argentina; Montevideo, Uruguay; south to Rio Negro, Patagonia).

Despotes tyrannus BONAPARTE, Compt. Rend., 1854, 87.

Milvulus tyrannus BONAPARTE, Geog. and Comp. List, 1838, 25.—AUDUBON, Synopsis, 1839, 38; Birds Am., oct. ed., i, 1840, 196, pl. 52.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 699; Journ. für Orn., 1861, 251 (Costa Rica).—JARDINE, Contr. Orn., 1848, 86 (Bermudas, accidental).—BURMEISTER, Verz. Mus. Hals., 1850, 46.—HURDIS, in Jardine's Contr. Orn., 1850, 53 (Bermudas, 2 spec.).—SCLATER, Proc. Zool. Soc. Lond., 1856, 141 (David, Panama), 297 (plains of Vera Cruz); 1858, 358 (Lake Yojoa, Honduras); Cat. Am. Birds, 1862, 237 (Mexico); Cat. Birds Brit. Mus., xiv, 1888, 279 (Mexico; Poctum, Guatemala; Chontales, Nicaragua; Orosí and Volcan de Irazú, Costa Rica; Castillo, Panama, and Santa Fé de Veragua, Panama, and South American localities south to Argentina and Uruguay).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 168; Cat. N. Am. Birds, 1859, no. 122.—MOORE, Proc. Zool. Soc. Lond., 1859, 55 (Belize, British Honduras; Peten, Guatemala; Omoa and Comayagua, Honduras).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 361 (Panama); 1867, 578 (Guia, Rio Negro, n. Brazil); 1869, 252 (plains of Valencia, Venezuela); 1873, 282 (Pebas, e. Peru); 1879, 516 (Retiro and Medellin, Colombia; habits; descr. nest and eggs), 616 (Santa Cruz, Province Moxos, and Chiquitos, Bolivia).—LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 177 (David, Panama); ix, 1868, 116 (San José, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Santa Fé de Veragua, Santiago, and David, Panama); 1870, 199 (Castillo, Calovevora, and Calobre, Panama); Ibis, 1872, 318 (Chontales, Nicaragua); 1885, 299 (Bartica Grove and Roraima, British Guiana); Cat. Strickland Coll., 1882, 318 (Brazil).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 556 (tierra caliente

[a] According to Audubon.

[b] Evidence of occurrence in California not considered satisfactory by Grinnell (Pacific Coast Avifauna, no. 3, 1902, 78.) All the United States records, it may be stated, are more or less doubtful.

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of Vera Cruz, up to 2,300 ft.).—FINSCH, Proc. Zool. Soc. Lond., 1870, 572 (Trinidad; crit.).—WYATT, Ibis, 1871, 334 (Colombia, up to 5,000 ft.).—LAYARD, Ibis, 1873, 383 (Pará; habits).—COUES, Check List, 1873, no. 240; 2d ed., 1882, no. 366.—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 309.—HUDSON, Proc. Zool. Soc. Lond., 1876, 106 (Buenos Aires; habits).—DURNFORD, Ibis, 1876, 160 (Buenos Aires); 1877, 178 (Buenos Aires; habits).—SALVIN and GODMAN, Ibis, 1879, 202 (Manaure, 2,700 ft., and San Sebastian, 6,700 ft., Santa Marta, Colombia); Biol. Centr.-Am., Aves, ii, 1889, 104 (Playa Vicente, etc., Vera Cruz; Old River, Pine Ridges of Belize, Saddle Cay, and Half Moon Cay, British Honduras; Peten, Pine Ridge of Poctum, San Gerónimo, and Estansuelas, Guatemala; Omoa, Comayagua, Langui, and Agua Azul, Honduras; Chontales and San Juan del Sur, Nicaragua; Orosí, San José, Irazú, and Turrialba, Costa Rica; David, Castillo, Calovevora, Calobre, Santiago, Santa Fé de Veragua, and Lion Hill, Panama).—GIBSON, Ibis, 1880, 26 (Buenos Aires); 1885, 280 (Paisandú, Uruguay).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 302; Proc. U. S. Nat. Mus., v, 1882, 496 (Volcan de Irazú, Costa Rica).—DALGLEISH, Proc. Roy. Phys. Soc. Edinb., vi, 1881, 248, pl. 8, fig. 2 (centr. Uruguay; habits; descr. nest and eggs).—WHITE, Proc. Zool. Soc. Lond., 1882, 608 (Salta and Buenos Aires, Argentina; crit.; descr. nest and eggs).—BARROWS, Bull. Nutt. Orn. Club, viii, 1883, 203 (Concepcion del Uruguay, Azul, and Bahia Blanca, Argentina).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 375 (San Juan del Sur, Nicaragua).—BERLEPSCH, Journ. für Orn., 1884, 304 (Bucaramanga, Colombia; crit.); Ibis, 1884, 435 (Angostura, Venezuela).—TACZANOWSKI, Orn. du Pérou, ii, 1884, 332.—BERLEPSCH and IHERING, Zeitschr. ges. Orn., 1885, 136 (Taquara, Province Rio Grande do Sul, s. Brazil; crit.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 442.—SCLATER and HUDSON, Argentine Orn., i, 1888, 160.—CORY, Auk, v, 1888, 158 (Grenada); Cat. West Ind. Birds, 1892, 108, 144 (Grenada).—WITHINGTON, Ibis, 1888, 466 (Lomas de Zamora, Argentina; habits).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 87 (Falls of Madeira, Bolivia); xiii, 1900, 142 (Bonda, etc., Santa Marta, Colombia).—CHERRIE, Auk, vii, 1890, 333 (San José, Costa Rica).—FRENZEL, Journ. für Orn., 1891, 122 (Cordoba, Argentina).—KERR, Ibis, 1892, 131 (Rio Pilcomayo, Argentina); 1901, 226 (Villa Concepcion, Paraguay).—HOLLAND, Ibis, 1892, 201 (Estancia Espartilla, Argentina; habits; molt).—STONE, Birds East Penn. and N. J., 1894, 99 (Camden and Bridgeton, New Jersey, accidental).—APLIN, Ibis, 1894, 180 (Santa Elena, Uruguay; habits).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 44 (Trinidad).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 231.—KOENIGSWALD, Journ. für Orn., 1896, 360 (São Paulo, Brazil).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 672 (Margarita I., Venezuela).—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).—SALVADORI, Boll. Mus. Zool., etc., Torino, xii, 1897, 17 (Caiza, s. Bolivia).—HOLMBERG, Secund. Cen. Argentina, 1898, 540.—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia), 176 (Palomina, Santa Marta); Proc. New Engl. Zool. Club, i, 1899, 79 (San Sebastian, Santa Marta).—IHERING, Aves de S. Paulo, 1899, 205 (Iguapa).—GOODFELLOW, Ibis, 1901, 708 (Cauca Valley, Cali, and Popayan, Colombia; habits).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 52 (Altagracia, etc., Venezuela).—WELLS, Auk, xix, 1902, 345 (Carriacou, Lesser Antilles).—LÖNNBERG, Ibis, 1903, 470 (Tatarenda, Bolivia; crit.).—ALFARO, Paginas Illustradas, i, 1904, 505 (Costa Rica; habits; descr. nest and eggs).

[*Milvulus*] *tyrannus* BONAPARTE, Consp. Av., i, 1850, 191 (North America).—GRAY, Hand-list, i, 1869, 365, no. 5561.—COUES, Key N. Am. Birds, 1872, 169.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.

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M[ilvulus] tyrannus CABANIS and HEINE, Mus. Hein., ii, 1859, 78 (Surinam; Venezuela.)—COUES, Key N. Am. Birds, 2d ed., 1884, 431; 5th ed., i, 1903, 512.—RIDGWAY, Man. N. Am. Birds, 1887, 327.

Milvulus tirannus CHERRIE, Auk, ix, 1892, 322 (San José, Costa Rica; descr. nest and eggs).

Muscivora tyrannus FRASER, Proc. Zool. Soc. Lond., 1843, 120 (Mendoza, Argentina; habits).—OBERHOLSER, Auk, xviii, Apr., 1901, 194.—RICHMOND, Proc. U. S. Nat. Mus., xxiv, no. 1247, 1901, 173 (San Julian, Venezuela).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 320.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 246.—BAER, Ornis, xii, 1904, 221 (Santa Ana, Argentina).—IHERING, Rev. Mus. Paul., vi, 1904, 326 (Paraguay), 435 (Rio Juruá, Sao Paulo, s. Brazil).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 276 (Grenada and Carriacou, Lesser Antilles).—HELLMAYR, Novit. Zool., xiii, 1906, 27 (Caroni, Trinidad).

[*Muscivora*] *tyrannus* SHARPE, Hand-list, iii, 1901, 150.

Tyrannus savana VIEILLOT, Ois. Am. Sept., i, 1807, 72, pl. 43 (based on *Savana ou Tyran à queue fourchue* Daubenton, Pl. Enl., pl. 571, fig. 2); Tabl. Enc. Méth., 1823, 853.—SWAINSON, Quart. Journ. Sci., xx, 1826, 282.

T[yrannus] savana HARTLAUB, Syst. Verz., 1844, 49 (South America); Index Azara Apunt., 1847, 12.

T[yrannus] savanna D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1837 (Synopsis Avium, p. 44) (Montevideo, Uruguay; Paraguay; Maldonado and Corrientes, Argentina; Moxos and Chiquitos, Bolivia).

Muscicapa savana BONAPARTE, Am. Orn., i, 1825, 1, pl. 1, fig. 1.—NUTTALL, Man. Orn. U. S. and Can., i, 1832, 274.—AUDUBON, Orn. Biog., ii, 1834, 387, pl. 168.

M[ilvulus] savanus GRAY, List Gen. Birds, 1841, 41.

Tyrannus (*Milvulus*) *monachus* HARTLAUB, Rev. Zool., xii, June, 1844, 214 (Guatemala; =young; see Lafresnaye, Rev. Zool., vii, 1844, 321–325; Finsch, Proc. Zool. Soc. Lond., 1870, 572).

T[yrannus] monachus HARTLAUB, Syst. Verz. Mus. Brem., 1844, 49 (Guatemala).

M[ilvulus] monachus GRAY, Gen. Birds, i, 1847, 248.

Milvulus monachus BONAPARTE, Consp. Av., i, 1850, 192 (Guatemala).—SCLATER, Ibis, 1859, 439 (Playa Vicente, Vera Cruz; Oaxaca; Guatemala; Honduras); Proc. Zool. Soc. Lond., 1859, 384 (Playa Vicente).—SCLATER and SALVIN, Ibis, 1859, 121 (Estansuelas, Guatemala; crit.); Proc. Zool. Soc. Lond., 1867, 578 (Rio Negro); 1869, 252 (Venezuela).—TAYLOR, Ibis, 1860, 114 (Langui and Agua Azul, Honduras).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 295 (Lion Hill, Panama); viii, 1865, 178 (David, Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Santiago and Santa Fé de Veragua, Panama).

(?) *Tyrannus nunciola* (not *Muscicapa nunciola* Wilson) STEPHENS, in Shaw's Gen. Zool., xiii, pt. ii, 1826, 282.

(?) *Muscicapa phaenoleuca* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 448 (based on *Suiriri pardo y blanco* Azara, Apunt., no. 192); Tabl. Enc. Méth., ii, 1823, 824.

Tyrannus violentus VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 89 (Paraguay; based on *Tixereta* Azara, Apunt. Parag. no. 190); Tabl. Enc. Méth., ii, 1823, 853.—BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 467; La Plata Reis., ii, 1861, 453; Journ. für Orn., 1860, 245 (La Plata).—STERNBERG, Journ. für Orn., 1869, 131, 258 (Buenos Aires; habits).—HOLTZ, Journ. für Orn., 1870, 5 (descr. eggs).

Muscicapa violenta BONAPARTE, Journ. Ac. Nat. Sci. Phila., iv, 1825, 378.

[*Milvulus*] *violentus* BONAPARTE, Consp. Av., i, 1850, 191 (s. Brazil; Paraguay).—GRAY, Hand-list, i, 1869, 365, no. 5562,

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M[ilvulus] violentus CABANIS and HEINE, Mus. Hein., ii, 1859, 78 (Brazil).

Milvulus violentus SCLATER, Cat. Am. Birds, 1862, 237 (Pará).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 142 (Conchitas, Argentina).—PELZELN, Orn. Bras., ii. Abth., 1869, 118; iv. Abth., 1870, 427.—REINHARDT, Fugel-faun. Bras. Campos, 1870, 133.

M[ilvulus] tyrannus, var. *violentus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 309, footnote.

Milvulus tyrannus violentus BERLEPSCH, Journ. für Orn., 1887, 13 (Lambaré, Paraguay), 118 (Paraguay).

Tyrannus milvulus NUTTALL, Man. Orn. U. S. and Can., 2d ed., i, 1840, 307.

Tyrannus forticatus (typographical error; not *Muscicapa forficata* Gmelin) DESCOURTILZ, Orn. Brés., 1856, pl. 22, fig. (1).

Family PIPRIDÆ.

THE MANAKINS.

Haploophone,[a] catacromyodous,[a] heteromerous[a] Mesomyodian Passeres with tarsal envelope exaspidean[a] (as in Tyrannidæ), and second phalanx of middle toe at least halfway (usually wholly) coherent with outer toe, or else (*Piprites*) the first phalanx of middle toe wholly coherent with inner toe.

The Pipridæ, as defined above, comprise not only those genera usually assigned to the group, except *Laniisoma*, which has been transferred to Cotingidæ, but also the genus *Laniocera*, which Doctor Sclater and others have placed with the Cotingidæ, but which has the typical exaspidean tarsi and more coherent toes diagnostic of the present group.

In their exaspidean tarsal envelope the Pipridæ agree with the Tyrannidæ, but otherwise resemble much more closely the Cotingidæ. The three groups are, however, very closely related, and it is a question whether they should not be combined to form one family, certain aberrant genera in each group being more or less intermediate, at least in external structure.

As a rule the Pipridæ are much smaller birds than the Cotingidæ, the largest forms being scarcely as large as those of medium size belonging to the latter group. Their tarsi are, as a rule, relatively longer, the tail shorter (in most forms very short, though sometimes the middle pair of rectrices are conspicuously elongated), the bill relatively smaller and, usually, shorter and broader basally. The character of the tarsal envelope, which is typically exaspidean, and the extent of cohesion between the anterior toes is very uniform in the group, the only notable departure being in the genus *Piprites*, which has the second phalanx of the middle toe wholly free from the outer (as in the Cotingidæ) and the first phalanx wholly united with the inner toe.

[a] For definitions of these terms see footnote on p. 328.

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Like those of the Cotingidæ the adult males of the Pipridæ are, with few exceptions, adorned with beautiful colors, usually with deep black predominating, but effectively contrasted with areas of bright blue, crimson, orange, yellow, or white. The females are mostly plain olive-greenish (paler or more yellowish below). In a few genera (as *Laniocera*, *Scotothorus*, and *Tyranneutes*) the sexes are alike and dull in color.

The family is peculiar to the continental portions of tropical America (including the islands of Trinidad and Tobago), and is represented by about seventy species, belonging to nineteen genera, the majority of which are confined to South America, where it is represented by about eighty species, belonging to twenty-two genera, of which only six occur north of the Isthmus of Panama.

KEY TO THE GENERA OF PIPRIDÆ.[a]

a. Second phalanx of outer toe wholly united to middle toe.

b. Wing less than two and a half times as long as tarsus; adult males with outermost primaries very narrow, bowed, and rigid, and feathers of throat elongated.
Manacus (p. 727)

bb. Wing at least three and a half times as long as tarsus; outermost primaries broad, or if narrow neither bowed nor rigid; feathers of throat not elongated (except in *Corapipo*, part).

c. Smaller (wing less than 90 mm.); plumage without spots.

d. Basal phalanx of inner toe wholly, or at least for greater part, adherent to middle toe; tail (not including abnormally developed or elongated middle rectrices) much shorter than wing to end of secondaries, or else (genus *Masius*) an erect frontal crest, and adult male black with red crest, pileum, and back.

e. Tail less than two-thirds as long as wing.

f. Lateral rectrices much more than two-thirds as long as middle pair, or else the latter much longer than the others.

g. Mesorhinium normal (short and narrow); adult male not entirely black.

h. Secondaries longer, reaching much more than two-thirds the distance from bend of wing to tip of longest primaries; exposed culmen shorter than middle toe without claw.

i. Rictal bristles shorter (much shorter than bill); wing less than five times as long as tarsus; adult males brightly colored (with black and blue, red, orange, yellow, or white).

j. Shafts of secondaries abnormally thickened.

k. Shafts of secondaries in adult male excessively thickened, twisted, and expanded terminally into club-shaped or claw-like form; outermost primaries broad throughout; tail less than one-third as long as wing, emarginate; nostril small,

[a] I have not been able to examine specimens of the following genera: *Metopothrix* Sclater; *Sapayoa* Hartert (Nov. Zool., x, Apr., 1903, 117), and *Schiffornis* Bonaparte. The first of these, according to Count von Berlepsch, does not belong to the Pipridæ, but is a member of the Dendrocolaptidæ (Furnariidæ ?), being not distantly related to the genus *Xenerpestes* Berlepsch. (See Ibis, Jan., 1903, 108.)

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very broadly operculate, the membrane occupying much the greater part of nasal fossæ; under parts not striped.
Allocotopterus (extralimital) [a]

kk. Shafts of secondaries (middle ones only) moderately thickened, but neither twisted nor expanded terminally; two outermost primaries attenuate, the outermost much constricted basally; tail more than one-third as long as wing, rounded; nostril large, narrowly operculate, occupying greater part of nasal fossæ... **Machæropterus** (extralimital) [b]

jj. Shafts of secondaries not thickened.

k. Shafts of primaries (especially eighth and ninth) thickened and strongly bowed; rump red; under parts grayish white.
Ilicura (extralimital) [c]

kk. Shafts of primaries not thickened nor bowed; rump not red; under parts not grayish white.

l. Frontal feathers erect, stiffened, in adult male forming a short tuft different in color (black) from crest (red); lower end of tibia naked, the heel joint entirely denuded; adult males with a truncate or emarginate crest of long, stiff feathers..... **Chiroprion** (p. 735)

ll. Frontal feathers only semierect, not forming a distinct tuft, but uniform in length, texture, and color with plumage of rest of pileum; lower end of tibia feathered, the heel joint only partly denuded; adult male without a distinct crest.

m. Adult male with under parts (except throat) and most of upper parts blue, and with middle rectrices elongate and attenuate..... **Chiroxiphia** (extralimital) [d]

mm. Adult males with under parts not blue (but black or black with orange or red, or wholly yellow); upper parts black, sometimes with blue on rump, often with pileum red, orange, yellow, blue, white, or opalescent; middle rectrices neither elongate nor attenuate.

n. Tail more than half as long as wing.

o. Tail nearly two-thirds as long as wing, even, the rectrices broadly rounded or subtruncate at tip; adult male with a deeply emarginate or double nuchal crest of elongated stiffened feathers, this crest, together with rest of head (except sometimes throat) red, the rest of plumage black.
Ceratopipra (extralimital) [e]

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[a] *Allocotopterus* Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 209. (Type, *Pipra deliciosa* Sclater.)

[b] *Machæropterus* Bonaparte, Consp. Voluc. Anisod., 1854, 6. (Type, *Pipra strigilata* Maximilian=*P. regulus* Hahn.) (Peculiar to South America; three species.)

[c] *Ilicura* Reichenbach, Av. Syst. Nat., 1850, pl. 63. (Type, *Pipra militaris* Shaw.)—*Heilicura* (emendation) Salvin, Cat. Strickland Coll., 1882, 320.—*Helicura* (emendation) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 311. (Southeastern Brazil; monotypic).

[d] *Chiroxiphia* Cabanis, in Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 235. (Type, *Pipra caudata* Shaw.) (One species, belonging to southern Brazil, Paraguay, and northern Argentina.)

[e] *Ceratopipra* Bonaparte, Consp. Volucr. Anisod., 1854, 6. (Type, *Pipra cornuta* Spix.) Two species, belonging to Guiana and Amazonia.

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oo. Tail (not including filiform shafts) much less than two-thirds as long as wing, the rectrices acuminate, sometimes filiform, at tip; adult males without crest, the under parts yellow, the upper black and scarlet .....**Cirrhipipra** (extralimital)[a]

nn. Tail not much more (usually much less) than half as long as wing.

o. Tail much less than half as long as wing; nostril narrow, broadly operculate; adult males with outer primaries normally broad, the outermost (tenth) not shorter than fourth, and without white throat. **Pipra** (p. 741)

oo. Tail at least half as long as wing; nostril broadly oval or roundish, nonoperculate; adult males with two outer primaries narrow, the outermost (tenth) not longer than second (sometimes shorter than first), and with general color glossy blue-black with white throat.....**Corapipo** (p. 753)

ii. Rictal bristles longer (the longest equaling or exceeding bill in length); wing more than five times as long as tarsus; sexes essentially alike in color, plain olive-green or olive-green and yellowish.....**Chloropipo** (extralimital)[b]

hh. Secondaries shorter, reaching to but little more than two-thirds as far as tip of longest primaries; exposed culmen longer than middle toe (without claw). (Adult male plain olive-green above, with or without a yellowish spot on crown, dull pale olive or yellowish below.) .....**Tyranneutes** (extralimital)[c]

gg. Mesorhinium broad, nearly equal in length to rest of culmen; adult male entirely glossy black.....**Xenopipo** (extralimital)[d]

ff. Lateral rectrices much less than two-thirds as long as middle pair, the latter shorter, or at least not longer, than intermediate rectrices. **Heterocercus** (extralimital)[e]

ee. Tail more than two-thirds as long as wing.

f. Frontal feathers elongated, conspicuously antrorse and semierect; sexes very different in color, the adult males deep black varied with bright red or yellow.

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[a] *Cirrhipipra* Bonaparte, Consp. Av., i, 1850, 172. (Type, *Pipra filicauda* Spix.)—*Cirrhopipra* (emendation) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 289.—*Teleonema* Reichenbach, Av. Syst. Nat., 1850, pl. 63. (Type, *Pipra filicauda* Spix.) Two species, belonging to Amazonia, Colombia, and Venezuela.

[b] *Chloropipo* Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 90, footnote. (Type, *Pipra "flavicollis* Scl.," i. e., *P. flavicapilla* Sclater.) Colombia, Ecuador, and Guiana. Two species.

[c] *Tyranneutes* Sclater and Salvin, Proc. Zool. Soc. Lond., 1881, 269. (Type, *T. brachyurus* Sclater and Salvin,=*Pipra virescens* Pelzeln?.) One or two species, from Guiana and Amazonia. Very distinct generically from *Pipra!*

[d] *Xenopipo* Cabanis, in Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 235. (Type, *X. atronitens* Cabanis.) One species from Guiana and Lower Amazonia.

[e] *Heterocercus* Sclater, Cat. Am. Birds, 1862, 245. (Type, *Elænia linteata* Strickland.) Three species, confined to upper Amazonia.

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g. Larger (wing more than 70 mm., tail more than 60 mm.); adult male with pileum (including frontal crest), hind neck, and back blood red, the rest of plumage entirely black.....**Antilophia** (extralimital) [a]

gg. Smaller (wing not more than 60 mm., tail about 40 mm.); adult male with pileum (including frontal crest) yellow, the feathers of ccipital portion with expanded horny tips orange or brown; throat and under side of wings yellow.....**Masius** (extralimital) [b]

ff. Frontal feathers neither elongated nor antrorse, not forming a tuft; sexes alike in color (plain brown or olive, or cinnamomeous).

g. Smaller (wing less than 55 mm.); color, cinnamon-rufous, the pileum grayish with a concealed central spot of orange-rufous or yellowish. **Neopipo** (extralimital) [c]

gg. Larger (wing more than 75 mm.); color olive, olive-brown, or olive-greenish (paler below), without gray or concealed spot on pileum. **Scotothorus** (p. 756)

dd. Basal phalanx of inner toe only half adherent to middle toe; tail nearly as long as wing to end of secondaries (somestimes longer); no frontal crest. **Neopelma** (extralimital) [d]

cc. Larger (wing more than 100 mm.); plumage more or less spotted. **Laniocera** (p. 763)

aa. Second phalanx of outer toe entirely free from middle toe..... **Piprites** (p. 767)

Genus MANACUS Brisson.

Manacus BRISSON, Orn., iv, 1760, 442. (Type, *Pipra manacus* Linnæus.) (See Allen, Bull. Am. Mus. Nat. Hist., ii, 1889, 73.)

Chiromachæris CABANIS, Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 235. (Type, *Pipra manacus* Linnæus.)

Small Pipridæ (wing about 45–55 mm.) with the wing less than two and a half times as long as tarsus, the adult males with outermost primaries very narrow, bowed, and rigid, and feathers of throat elongated.

Bill less than half as long as head, rather broad and depressed basally, its depth at nostrils less than its width at same point; culmen plainly ridged, gradually curved from the base, the tip of maxilla distinctly but not abruptly uncinate; gonys about as long as mandibular

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[a] ***Metopia*** (not of Meigen, 1803) Swainson, Fauna Bor.-Am., ii, 1831, 491. (Type, *Pipra galeata* Lichtenstein.).—***Antilophia*** Reichenbach, Av. Syst. Nat., 1850, pl. 63. (Same type.) Southern Brazil and Bolivia; monotypic.

[b] ***Masius*** Bonaparte, Consp. Av., i, 1850, 175. (Type, *Pipra chrysoptera* Lafresnaye.) ***Anticorys*** Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 90 (substitute for *Masius* on grounds of purism). Colombia and Ecuador; two species.

[c] ***Neopipo*** Sclater and Salvin, Proc. Zool. Soc. Lond., 1869, 438. (Type, *Pipra cinnamomea* Lawrence.)

[d] ***Neopelma*** Sclater, Proc. Zool. Soc. Lond., 1860, 467. (Type, *Muscicapa aurifrons* Maximilian.) To this genus should be referred three species usually placed in "*Heteropelma*" (i. e., *Scotothorus*), namely, *Heteropelma flavicapillum* Sclater (*Neopelma flavicapillum*), *H. chrysocephalum* Pelzeln (*Neopelma chrysocephalum*), and *H. igniceps* Sclater (*Neopelma igniceps*). The group, as thus enlarged, consists of four species, all South American (Guiana to southeastern Brazil).

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rami, slightly convex; maxillary tomium nearly straight or gently concave anteriorly, distinctly notched subterminally. Nostril mostly exposed, rather large, longitudinally oval or elliptical, overhung by distinct membraneous operculum. Rictal bristles distinct. Wing short, rounded, very concave beneath, with longest primaries exceeding secondaries by less than length of exposed culmen; adult males with four or five outermost primaries narrow, much bowed, rather rigid, the fourth to ninth, inclusive, usually longest and nearly equal in length, the tenth usually equal to third (in one species[a] the sixth to ninth longest, and tenth equal to or longer than fifth). Tail more than half (but less than two-thirds) as long as wing, even or very slightly double-rounded, rounded, or emarginate, the rectrices rather narrow, with rounded tip. Tarsus long (more than two-thirds as long as tail), stout, its scutellation typically exaspidean, but acrotarsium fused or with scutella obsolete, at least on upper half of outer side; heel joint bare, except on sides and front of tibial portion; middle toe, with claw, much shorter than tarsus, its second phalanx adherent to outer toe for at least two-thirds its length, the first united for at least half its length to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner decidedly shorter; hallux (without claw) about as long as inner toe but stouter; claws rather long and sharp, moderately curved.

Plumage and coloration.—Contour feathers rather long, completely blended; head normally feathered, but feathers of chin and throat elongated (especially in males, in which forming a conspicuous erectile tuft). Adult males with pileum, back, scapulars, and wings black, rump olive-green or gray, broad collar across hindneck, together with auricular region, chin, throat, and chest white, yellow, or orange, underparts of body pale gray, light olive-green, olivaceous-orange, or lemon yellow;[b] adult females plain olive-green above, paler and more yellowish below.

Nidification.—Nest shallow cup-shaped, suspended to a forked twig of a bush or small tree, very thin, composed of long grass-stems and plant-fibers. Eggs whitish or buffy, longitudinally streaked or blotched with reddish brown, etc., the markings sometimes confluent in a ring round larger end.

Range.—Southern Mexico to Peru and southeastern Brazil. (About ten species and subspecies.)

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[a] In *M. aurantiacus*.

[b] *M. coronatus* (*Chiromachæris coronata* Boucard), which I have not seen, differs materially in its pattern of coloration from the other members of the genus, which are remarkably alike in this respect. It has, in the adult male (the female being unknown) the upper parts black, interrupted by a nuchal collar of bright yellow, which extends over sides of head, the throat black, the remaining underparts gray. Possibly it may not belong to this genus.

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KEY TO THE SPECIES AND SUBSPECIES OF MANACUS.

a. Throat black. (Colombia.).....**Manacus coronatus** (extralimital)[a]

aa. Throat not black.

b. Pileum, lower back, wings, and tail black; throat and chest white, yellow, or orange. (Adult males.)

c. Throat and nuchal collar pure white (the latter sometimes tinged with grayish).

d. Under parts of body bright yellow. (Southern Mexico to Costa Rica.) **Manacus candei**, adult male (p. 730)

dd. Under parts of body white or bluish gray. (*Manacus manacus*.)

e. Under parts of body white, passing into gray on flanks.

f. Under tail-coverts gray, like flanks. (Guiana, Trinidad, etc., to Peru and Ecuador.).....**Manacus manacus manacus**, adult male (extralimital)[b]

ff. Under tail-coverts white, like abdomen. (Lower Amazon Valley.) **Manacus manacus purus**, adult male (extralimital)[c]

ee. Under parts of body gray (only the chin, throat and chest white).

f. Gray of under parts deeper; wing shorter, tail longer (wing 48–50, tail 33–36.5). (Southern Brazil.).....**Manacus manacus gutturosus** (extralimital)[d]

ff. Gray of under parts paler; wing longer (52–53), tail shorter (28–31). (Colombia and northwestern Venezuela.) **Manacus manacus abditivus** extralimital)[e]

cc. Throat and nuchal collar yellow or orange.

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[a] *Chiromachaeris coronata* Boucard, Proc. Zool. Soc. Lond., 1879, 178, pl. 17 (Colombia; coll. A. Boucard); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 316.—[*Manacus*] *coronatus* Sharpe, Hand-list, iii, 1901, 158.

This rare species (of which the type is still unique) I have not seen. It may not be a true *Manacus*.

[b] [*Pipra*] *manacus* Linnæus, Syst. Nat., ed. 12, i, 1766, 340 (Surinam; based on *Black-capped Manakin* Edwards, pl. 260, pp. 107, 108).—*Chiromachaeris manacus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, i, 235; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 313, part.—*Manacus edwardsi* Bonaparte, Consp. Av., i, 1850, 171 (new name for *Pipra manacus* Linnæus).—*Pipra gutturalis* (not *P. gutturosa* Desmarest) Léotaud, Ois. Trinidad, 1866, 253.—*Manacus manacus manacus* Bangs, Proc. New Engl. Zool. Club, i, Mar. 31, 1899 (monogr.).—*Chiromachaeris manacus manacus* Hellmayr, Novit. Zool., xiii, 1906, 27 (crit.).

[c] *Chiromachæris manacus* (not *Pipra manacus* Linnæus) Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 580 (lower Amazon); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 313, part (Pará).—*Manacus manacus purus* Bangs, Proc. New Engl. Zool. Club, i, Mar. 31, 1899, 36 (Santarem, lower Amazon; coll. U. S. Nat. Mus.).

[d] *Pipra gutturosa* Desmarest, Tanag. Manak. et Tod., livr. 6, 1805, fig. 58 (locality unknown).—[*Manacus*] *gutturosa* Bonaparte, Consp. Av., i, 1850, 171.—*Chiromachæris gutturosa* Sclater, Proc. Zool. Soc. Lond., 1854, 114; Cat. Birds Brit. Mus., xiv, 1888, 313.—*Manacus manacus gutturosus* Bangs, Proc. New Engl. Zool. Club, i, Mar. 31, 1899, 36 (monogr.).

[e] *Chiromachæris manacus* (not *Pipra manacus* Linnæus) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 313, part (Bogota, Remedios, and Minca, Colombia).—*Manacus manacus* Bangs, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia).—*Manacus manacus abditivus* Bangs, Proc. New Engl. Zool. Club, i, Mar. 31, 1899, 35 (Santa Marta, Colombia; coll. E. A. and O. Bangs).—*Manacus manacus abditivus* (error) Allen, Bull. Am. Mus. N. H., xiii, 1900, 155 (Bonda, etc., Santa Marta, Colombia).

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d. Throat and nuchal collar pale (primrose) yellow. (Colombia.
Manacus flaveolus (extralimital)[a]

dd. Throat and nuchal collar intense yellow or orange.

e. Throat and nuchal collar bright chrome yellow; under parts of body yellowish olive-green; nuchal collar narrower, the upper back black. (Southeastern Panama to Colombia.)
Manacus vitellinus, adult male (p. 732)

ee. Throat and nuchal collar intense orange; under parts of body dull chrome yellow; nuchal collar broader, involving upper back. (Northern Panama to southwestern Costa Rica.).....**Manacus aurantiacus**, adult male (p. 734)

bb. Pileum and rest of upper parts plain olive-greenish, the throat similar but paler (sometimes more grayish). (Adult females and young males.)

c. Above duller or more greenish olive-green, beneath paler and more grayish olive-greenish, becoming whitish or very pale greenish olive on abdomen.
Manacus manacus, adult female and young male.[b]

cc. Above brighter and more yellowish olive-green, beneath deeper and more yellowish olive-green, becoming more or less decidedly yellowish on abdomen.

d. Above clear olive-green; anterior under parts not yellowish (throat sometimes grayish).

e. Abdominal area extensively and conspicuously yellowish.
Manacus candei, adult female and young male (p. 731)

ee. Abdominal region neither extensively nor distinctly yellowish, but practically concolor with rest of under parts.
Manacus vitellinus, adult female and young male (p. 733)

dd. Above "golden" or yellowish olive-green; whole under parts strongly yellowish.....**Manacus aurantiacus**, adult female and young male (p. 734)

MANACUS CANDEI (Parzudaki).

CANDE'S MANAKIN.

Adult male.—Pileum and loral region uniform black; hindneck, upper back, anterior scapulars, sides of neck, sides of head (including whole of auricular, suborbital, and malar regions), chin, throat, and chest, white, the upper back showing more or less of the underlying dusky grayish of the basal portion of the feathers; a band of black across lower back and posterior scapulars; rump and upper tail-coverts plain olive-green (the lower rump sometimes more yellowish); lesser and middle wing-coverts (except along border of wing) white, sometimes sparsely flecked with black or dusky; greater wing-coverts white basally, black terminally; rest of wing black passing into grayish brown on terminal portion of primaries; tail black; under parts of body, including under tail-coverts, clear bright yellow (canary to

[a] *Manacus flaveolus* Cassin, Proc. Ac. Nat. Sci. Phila., 1851, 349 (Bogota, Colombia; coll. Ac. Nat. Sci. Phila.).—*C[hiromachaeris] flaveola* Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 97.—*Chiromachæris flaveola* Sclater, Cat. Am. Birds, 1862, 252; Cat. Birds Brit. Mus., xiv, 1888, 315.—*Pipra flavo-tincta* Sclater, Proc. Zool. Soc. Lond., 1852, 34, pl. 48 (Bogota, Colombia; coll. P. L. Sclater).

[b] There are not specimens enough available to enable me to differentiate females and young males of the several subspecies.

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lemon); axillars and under wing-coverts paler yellow; inner webs of remiges with basal half (more or less) pale brownish gray, passing into whitish on edges; maxilla black, mandible more grayish (bluish gray in life); iris brown; legs and feet pale brownish yellow or buffy in dried skins, bright orange-yellow, orange, or reddish orange in life; length (skins), 97–120 (108); wing, 53.5–58 (55.1); tail, 33–38.5; (36.2); exposed culmen, 10–11.5 (11); tarsus, 21–22.5(21.8); middle toe, 11.5–13.5 (12.4).[a]

Adult female.—Above, including sides of head and neck, plain olive-green, somewhat lighter and more yellowish on lower rump; chin, throat, and chest somewhat lighter olive-green, the chin and upper throat sometimes more or less grayish; rest of under parts yellow (lemon to canary), the sides and flanks more or less strongly suffused with olive-green, the breast sometimes obsoletely streaked or flammulated with the same; bill, legs, feet, and iris as in male; length (skins), 96–116 (107); wing, 53.5–57.5 (55.4); tail, 32–39 (35.9); exposed culmen, 9.5–12 (10.9); tarsus, 19–22.5 (20.8); middle toe, 10.5–13.5 (11.6).[b]

Young male.—Precisely like the adult female in coloration.

Southeastern Mexico, in States of Vera Cruz (Cordova; Playa Vicente; Buena Vista), Tabasco (Teapa) and Chiapas (Palenque), through Guatemala (Yzabal; Peten; Choctum; Lanquin; Livingston), British Honduras (Belize; Manatee Lagoon), Honduras (San Pedro; Truxillo; Ceiba; Segovia River), and Nicaragua (Greytown;

[a] Twenty-five specimens.

[b] Twenty-one specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Vera Cruz (4) and Tabasco (1)	56.1	36.2	11.4	21.9	12.5
Ten adult males from Chiapas (1), Guatemala (5), and Honduras (4)	55.3	37.3	11.1	22	12.1
Ten adult males from Nicaragua (2) and Costa Rica (8)	54.5	35.2	10.7	21.6	12.6
FEMALES.					
One adult female from "Mexico"	54.5	36.5	10.5	22	12
Ten adult females from Chiapas (2), Guatemala (3), British Honduras (2), and Honduras (3)	56	36.9	10.9	20.5	11.4
Ten adult females from Nicaragua (2) and Costa Rica (8)	54.8	34.8	10.9	21	11.8

With a very much larger series of specimens than that examined by Mr. Bangs, I find his proposed separation of the birds of this species untenable. Examples precisely matching the Vera Cruz specimens in the depth of the yellow and other characters are found in the series from Nicaragua and Costa Rica; and specimens from Guatemala show both extremes in the depth of the yellow of the under parts, while an example from Chiapas, southern Mexico, is quite as intensely yellow below as any specimen from a more southern locality.

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Los Sábalos; Rio Escondido) to Costa Rica (Augostura; Tucurriqui; Turrialba; San Carlos; Guacimo; Guapiles; Carillo; Jiménez; Juan Viñas).

Pipra candei PARZUDAKI, Rev. Zool., iv, 1841, 306 (Truxillo, Honduras); Mag. de Zool., 2e sér., 1843, Ois., pl. 45.

P[ipra] candei GRAY, Gen. Birds, i, 1847, 274.

[Pipra] candei GRAY, Hand-list, i, 1869, 378, no. 5728.

[Manacus] candei BONAPARTE, Consp. Av., i, 1850, 171.

Manacus candei SCLATER, Proc. Zool. Soc. Lond., 1856, 299, pl. 121 (Cordova, Vera Cruz); 1857, 385 (Playa Vicente, Vera Cruz).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Peten, Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 558 (Vera Cruz).

Manacus candei candei BANGS, Proc. New Engl. Zool. Club, iii, Feb. 6, 1903, 106, in text; Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Ceiba, Honduras).

Manacus candæi SCLATER and SALVIN, Ibis, 1859, 124 (Honduras; Lake Peten, Guatemala; Cordova, Vera Cruz).—SCLATER, Proc. Zool. Soc. Lond., 1859, 385 (Playa Vicente, Vera Cruz).—SALVIN and SCLATER, Ibis, 1860, 37 (Yssabal, Guatemala; habits).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 509 (Rio Escondido, Nicaragua; habits).

[Manacus] candæi SHARPE, Hand-list, iii, 1901, 158.

C[hiromachaeris] candei CABANIS and HEINE, Mus. Hein. ii, 1859, 97 (Honduras).

Chiromachæris candei LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 184 (Greytown, Nicaragua); ix, 1868, 117 (Turrialba and Angostura, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 310 (Costa Rica).

Chiromachæris candæi SCLATER, Cat. Am. Birds, 1862, 252 (Choctum, Guatemala; "New Granada?"); Cat. Birds Brit. Mus., xiv, 1888, 314 (Choctum, Guatemala; Belize, British Honduras; San Pedro, Honduras; Angostura and Tucurrique, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 837 (Honduras).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 66 (San Carlos, Costa Rica; habits).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 403 (Los Sábalos, Nicaragua).—RIDGWAY, Proc. U. S. Nat. Mus., x, 1887, 580 (Truxillo, Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 114.

[Chiromachæris] candæi SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55.

Manacus candei electilis BANGS, Proc. New Engl. Zool. Club, iii, Feb. 6, 1903, 106 (Buena Vista, Vera Cruz; coll. E. A. and O. Bangs).

MANACUS VITELLINUS (Gould).

GOULD'S MANAKIN.

Adult male.—Pileum, lores, back, and scapulars uniform deep black; rump and upper tail-coverts plain olive-green; tail black; lesser wing-coverts mostly yellow, partly black; middle and greater coverts black, indistinctly grayish on terminal margin; remiges duller black, the primaries passing into grayish brown terminally; a broad collar across hindneck, sides of neck, chest, and whole throat bright orange-yellow (between chrome and cadmium), most intense on elongated feathers of throat, paler (more lemon) on chin; under parts of body and under tail-coverts plain light olive-green, more yellowish on center of abdomen; axillars and under wing-coverts pale grayish yellow, the carpo-metacarpal region dusky olive; inner webs of remi-

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ges grayish brown, passing into dull yellowish white on edges for basal portion; bill blackish; legs and feet pale brownish yellow or buffy in dried skins (orange or orange-yellow in life?); length (skins), 101–109 (105); wing, 50–55 (52.8); tail, 27.5–31 (29.6); exposed culmen, 10.5–11.5 (10.9); tarsus, 20–21.5 (20.8); middle toe, 11.5–13 (12.2).[a]

Adult female.—Above plain olive-green; under parts lighter and more yellowish olive-green, becoming more yellowish (olive-yellow) on center of abdomen; bill, legs, and feet as in male; length (skins), 96–104 (100); wing, 51.5–55 (54); tail, 29.5–35 (30.9); exposed culmen, 11–11.5 (11.1); tarsus, 19–20 (19.5); middle toe, 10.5–11.5 (10.9).[b]

Southern and eastern Panama (Lion Hill, Obispo, Paraiso, and Frijole stations, Panama Railway; Panama City; Veragua), and adjacent parts of Colombia (Cauca; Rio Lima; Antioquia).

Pipra vitellina GOULD, Proc. Zool. Soc. Lond., 1843, 103 (Panama; coll. Brit. Mus.); Zool. Voy. "Sulphur", Birds, 1844, 41, pl. 21.—LAFRESNAYE, Rev. Zool., 1847, 69.

P[ipra] vitellina GRAY, Gen. Birds, i, 274.—BONAPARTE, Consp. Av., i, 1850, 173.

[*Pipra*] *vitellina* GRAY, Hand-list, i, 1869, 378, no. 5729.

C[hiromachaeris] vitellina CABANIS and HEINE, Mus. Hein., ii, 1859, 97 ("Central America").

Chiromachæris vitellina SCLATER, Cat. Am. Birds, 1862, 253 (Panama); Cat. Birds Brit. Mus., xiv, 1888, 315 ("Nicaragua"; Veragua; Panama and Paraiso Station, Panama; Cauca, Colombia).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 362 (Lion Hill, Panama); 1879, 517, pl. 42, fig. 10 (egg) (Remedios Antioquia, and Cauca, Colombia).—SALVIN and GODMAN, Biol. Centr.-Am., ii, 1890, 114 (Veragua; Lion Hill, Obispo, and Paraiso Stations, Panama; n. Colombia).

[*Chiromachæris*] *vitellina* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55.

Manacus vitellinus BONAPARTE, Consp. Voluc. Anisod., 1854, 5.—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 217 (Sabana de Panama).

[*Manacus*] *vitellinus* SHARPE, Hand-list, iii, 1901, 158.

Manacus vitellina BANGS, Proc. New Engl. Zool. Club, ii, 1900, 22 (Loma del Leon, Panama).

Chiroxiphia vitellina LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 296 (Lion Hill, Panama R. R.).

[a] Fifteen specimens, from Panama.

[b] Six specimens; five from Panama, one said to be from Costa Rica, but probably an error.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Panama	52.2	29.4	10.8	20.8	12.2
Five adult males from Colombia (Cauca Seca and Rio Lima)	53.9	29.9	10.9	20.9	12.1

The Colombian specimens are decidedly (and uniformly) deeper and clearer (less yellowish) olive-green below than any of the specimens from Panama; but they are all in very fresh plumage, and I am inclined to ascribe the difference to that cause.

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MANACUS AURANTIACUS (Salvin).

SALVIN'S MANAKIN.

Similar to *M. vitellinus*, but collar across hindneck much broader (involving upper back) and, together with throat, etc., intense orange instead of orange-yellow; under parts of body yellow (tinged with olive laterally) instead of olive-green; tail olive, instead of black. Adult female more yellowish olive-green, becoming decidedly yellow on abdomen.

Adult male.—Pileum, lores, and band across middle of back uniform deep black; lower back, rump, and upper tail-coverts plain olive-green (the first darker, the two latter lighter and more yellowish); tail greenish olive, more dusky terminally; lesser wing-coverts yellowish orange; middle and greater coverts black; secondaries black, their basal half (more or less) dusky olive; primaries dusky, the innermost edged with olive basally; broad band across hindneck, sides of neck, auricular, suborbital, and malar regions, chin, throat, and chest, intense orange (cadmium orange), the feathers yellowish white basally; upper back with feathers orange-yellow terminally, dusky grayish basally, with a yellow bar between; under parts of body and under tail-coverts yellow (gamboge, lemon, or chrome), the sides and flanks tinged with olive, especially the latter; axillars and under wing-coverts pale yellow, the margin of wing dusky; inner webs of remiges grayish brown, passing into dull yellowish white on edges; maxilla blackish, mandible more grayish or horn colored; legs and feet pale brownish yellow or buffy (orange in life); length (skins), 95–104 (97); wing, 45–49 (46.9); tail, 27–30.5 (29.2); exposed culmen, 9.5–11 (10.8); tarsus, 19.5–20.5 (20); middle toe, 11.5–12.5 (11.9).[a]

Adult female.—Above, including sides of head and neck, plain "golden" olive-green, darker on pileum, lighter and more yellowish on lower rump and upper tail-coverts; chin and throat lighter yellowish olive-green, deepening into darker yellowish olive-green on chest; rest of under parts wax yellow medially, passing into light yellowish olive-green on flanks; bill, etc., as in adult male; length (skins), 93–105 (98); wing, 49–51 (49.7); tail, 28–32.5 (30.4); exposed culmen, 10–11.5 (10.7); tarsus, 18–19 (18.8); middle toe, 11–11.5 (11.1).[b]

[a] Thirteen specimens.

[b] Nine specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Panama	46.8	29.1	10.6	20	11.8
Three adult males from Costa Rica	47	29.7	10.2	20.2	12.2
FEMALES.					
Five adult females from Panama	49.8	31.2	11.1	19	11.1
Four adult females from Costa Rica	49.5	29.5	10.2	18.6	11.1

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Western Panama (Bugaba; Divala; Mina de Chorcha) and southwestern Costa Rica (Pirris; Pozo Azul de Pirris; Las Trojas).

Chiromachæris aurantiaca SALVIN, Proc. Zool. Soc. Lond., Aug. 1, 1870, 200 (Bugaba, Panama; coll. Salvin and Godman).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 316 (Bugaba and Mina de Chorcha, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 115, pl. 41, figs. 1, 2.

[*Chiromachæris*] *aurantiaca* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55.

Manacus aurantiaca BANGS, Auk, xviii, 1901, 365 (Divala, Panama).

[*Manacus*] *aurantiacus* SHARPE, Hand-list, iii, 1901, 158.

Genus CHIROPRION Bonaparte.

Chiroprion "Schiff," BONAPARTE, Consp. Voluc. Anisod., 1854, 5. (Type, *Pipra pareola* Linnæus.)

Cercophæna BONAPARTE, Consp. Voluc. Anisod., 1854, 6. (Type, *Pipra linearis* Bonaparte.)

Rather small Pipridæ (wing about 65–80 mm.) with heel joint denuded (except front of tibial portion), second phalanx of middle toe entirely adherent to outer toe and first joint wholly united to inner toe, the adult males black with pale blue back and ruby red crest.

Bill very short and stout, its depth at nostrils equal to about two-thirds the distance from nostril to tip of maxilla, or more; culmen distinctly ridged, strongly curved from base, but tip of maxilla very slightly uncinate; gonys about as long as mandibular rami or slightly shorter, nearly as long as distance from nostril to tip of maxilla (quite as long in *C. lanceolata*), nearly straight or slightly convex, ascending terminally; basal width of interramal space about equal to its length; maxillary tomium faintly concave, at least anteriorly, distinctly but rather minutely notched subterminally. Nostril at least partly (usually wholly) covered by stiff antrorse plumes of latero-frontal antiæ, rather large, roundish, without marginal membrane, except posteriorly. Rictal bristles obvious but (except in *C. pareola*) not very distinct. Wing rather long, but much rounded, with longest primaries exceeding secondaries by less than length of commissure (by less than length of exposed culmen in *C. lanceolata* and *C. linearis*); adult males with seventh and eighth (*C. pareola*) or sixth, seventh, and eighth (*C. lanceolata* and *C. linearis*) primaries longest, the tenth slightly shorter than sixth (*C. pareola*) or shorter than first (*C. lanceolata* and *C. linearis*), the three outermost with outer web gradually excised (nearly or quite to the shaft) terminally. Tail about half as long as wing, even or slightly rounded, the rectrices rather narrow, with rounded tip, one species (*C. lanceolata*) with the middle pair elongated and narrowly pointed, another (*C. linearis*) with them excessively elongated (several times longer than other rectrices), linear, slightly expanded or subspatulate terminally. Tarsus much longer than commissure, rather stout, its scutellation exas-

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pidean, but edges of acrotarsium rather widely separated on inner side of tarsus, especially the upper portion; heel joint denuded, except front of tibial portion; middle toe, with claw, decidedly shorter than tarsus, its second phalanx wholly adherent to outer toe, its first phalanx united to inner toe; outer toe (without claw) reaching nearly to base of terminal phalanx of middle toe, the inner much shorter; hallux (without claw) about as long as inner toe, or slightly shorter, but much stouter.

Plumage and coloration.—Contour plumage perfectly blended; adult males with feathers of frontal region elongated, dense, erect, and somewhat stiffened, without bristly points, the crown with a truncated or emarginate crest of long, stiff feathers of glossy ruby red color, the rest of the plumage black, with back and scapulars pale blue; adult females plain olive-green, paler below.

Nidification.—Nest similar to that of species of the genus *Manacus*. Eggs cream color or creamy white, speckled with brown.

Range.—Southern Mexico to Brazil, Bolivia, and Ecuador. (Six species and subspecies, two species occurring north of the Isthmus of Panama.)

KEY TO THE SPECIES OF CHIROPRION.

a. General color black, with back blue and crown crimson or yellow. (Adult males.)
  b. Middle pair of rectrices neither narrow nor elongated.
    c. Crown-patch crimson. (*Chiroprion pareola*, adult male.)
      d. Smaller (wing 69–77, tail 32.5–38.5, tarsus 19–21). (Guiana and Amazon Valley.).....**Chiroprion pareola pareola** (extralimital)[a]
      dd. Larger (wing 77–79, tail 39–40, tarsus 21–21.5. (Island of Tobago.)
Chiroprion pareola atlantica (extralimital)[b]
    cc. Crown-patch yellow. (Upper Amazon Valley.)
Chiroprion reginæ (extralimital)[c]

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[a] [*Pipra*] *pareola* Linnæus, Syst. Nat., ed. 12, i, 1776, 339 (Brazil; Cayenne; based on *Manacus cristatus niger* Brisson, Orn., iv, 459, pl. 35, fig. 1, etc.—*Pipra pareola* Swainson, Birds Brazil, pt. iv, 1836 (?), pl. 44.—*Chiroxiphia pareola* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, i, 235; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 307.—[*Chiroprion*] *pareola* Bonaparte, Consp. Vol. Anisod., 1854, 5.—*Manacus superbus* Pallas, Spic. Zool., i, fasc. 6, 1769, 8, pl. 3, fig. 1 (Surinam; coll. Mus. Geversianum).—[*Pipra*] *superba* Gmelin, Syst. Nat., i, 1788, 999.

[b] *Chiroxiphia pareola atlantica* Dalmas, Mém. Soc. Zool. France, xiii, 1900, 139 (Tobago).

I am unacquainted with *Chiroxiphia pareola boliviana* Allen, Bull. Am. Mus. N. H., ii, Mar., 1889, 87 (Yungas, Bolivia; coll. Am. Mus. N. H.).

[c] *Chiroxiphia reginæ* Sclater, Ann. and Mag. N. H., ser. 2, xxvii, 1856, 469 (Borba, Brazil; coll. Vienna Mus.); Cat. Am. Birds, 1862, 251, pl. 20; Cat. Birds Brit. Mus., xiv, 1888, 308.—[*Chiroxiphia*] *regina* Sclater and Salvin, Nom. Av. Neotr., 1873, 55; Sharpe, Hand-list, iii, 1901, 157.

I have not seen this supposed species. If, as would appear from descriptions, the only difference from *C. pareola* consists in its yellow instead of crimson crown-patch, it is possibly only a color-variety of that species.

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bb. Middle pair of rectrices narrow and elongated.

c. Middle pair of rectrices lanceolate, pointed, not twice as long as the other rectrices; under parts dull black or dusky olivaceous-slaty. (Panama to Venezuela and Trinidad.).....**Chiroprion lanceolata** (p. 737)

cc. Middle rectrices linear, obtuse, much more than twice as long as other rectrices; under parts deep black. (Southern Mexico to Costa Rica.)

Chiroprion linearis (p. 739)

aa. General color plain olive-green, paler on under parts (with or without crimson on crown). (Adult females and young males.)

b. Middle pair of rectrices not longer than others, broad and rounded.

c. Smaller (wing 69)..**Chiroprion pareola pareola**, female and young (extralimital)

cc. Larger (wing 75–76).

Chiroprion pareola atlantica, female and young (extralimital)

bb. Middle pair of rectrices projecting beyond the others, narrowed terminally or else very narrow for most of their length.

c. Middle pair of rectrices broad for most of length, gradually narrowed terminally, projecting for much less than half their length beyond the rest.

Chiroprion lanceolata, female and young male (pp. 737, 738)

cc. Middle pair of rectrices narrow and of nearly uniform width for most of their length, usually projecting for nearly half their length beyond the rest.

Chiroprion linearis, female and young male (pp, 739, 740)

CHIROPRION LANCEOLATA (Wagler).

SHARP-TAILED MANAKIN.

Adult male.—Forehead, superciliary region and rest of sides of head, hindneck, and under parts plain black, the under parts duller, with more or less of an olive-slaty cast,[a] at least posteriorly; a flattened truncate or slightly emarginate crest of elongated, stiffened, rather narrow, feathers covering crown and middle of forehead bright crimson; back and scapulars plain grayish azure blue; rump and upper tail-coverts dark olive-slaty or slaty olive; wings and tail uniform black; bill blackish brown or dusky horn color, the mandible slightly more brownish; iris brown; legs and feet light brownish yellow or buffy in dried skins, clear orange in life; length (skins), 118–139 (129); wing, 70.5–75 (72.9); tail, 46.5–55.5 (51.5); exposed culmen, 9–10.5 (10); tarsus, 17.19–5 (18.8); middle toe, 11.5–13.5 (12.3).[b]

Adult female.—Above plain olive-green (the crown sometimes with red feathers, rarely with a patch of that color); under parts lighter olive-green, deepest on chest, paler and sometimes more grayish on and throat, the under parts of body much paler, inclining to olive-whitish on abdomen and under tail-coverts; bill horn color, the mandible paler; iris and feet as in male; length (skins), 115–129

[a] Especially in specimens from Venezuela to the lower Amazon Valley.

[b] Twenty-five specimens.

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(122); wing, 69–73 (71.3); tail, 41–52 (45.2); exposed culmen, 9.5–11 (10.3); tarsus, 16.5–19 (17.9); middle toe, 11–13 (11.7).[a]

Young male.—Similar to the adult female, but crown with a crimson patch, as in adult males. (When older, variously intermediate between this plumage and that of the fully adult male.)

Panama (Calovevora; Calobre; Chitra; Boquete de Chitra; Boquete; Castillo; Divala; David; Santa Fé de Veragua; Mina de Chorcha; Panama; Paraiso; Lion Hill) and through northern and central Colombia (Cacagualito; Bonda; Minca; Santa Marta; Manaure; Sabanilla; Cartagena; Bogota) and Venezuela (Caracas; El Pilar; San Esteban; Cumanacoa; Margarita Island) to island of Trinidad.

(??) *P[ipra] melanocephala* VIEILLOT, Tabl. Enc. Méth., ii, 1823, 389 (Trinidad).[b]—BONAPARTE, Proc. Zool. Soc. Lond., 1837, 113.

(??) [*Pipra*] *melanocephala* GRAY, Hand-list, i, 1869, 376, no. 5693.

[*Chiroxiphia*] *melanocephala* BONAPARTE, Consp. Av., i, 1850, 172.

Chiroxiphia melanocephala SCLATER, Proc. Zool. Soc. Lond., 1855, 151 (Bogota, Colombia); 1856, 141 (Chiriqui, Veragua).

Pipra pareola (not of Linnæus) HAHN, Ausl. Vög., lief. 16, 1822, pl. 4.—LESSON, Traité d'Orn., 1831, 257, pl. 51, fig. 1.

P[ipra] lanceolata WAGLER, Isis, 1830, 931 ("Guiana sive Cajenna").

C[hiroxiphia] lanceolata CABANIS and HEINE, Mus. Hein., ii, 1859, 96 (Cartagena, Colombia; Caracas, Venezuela).

Chiroxiphia lanceolata SCLATER, Cat. Am. Birds, 1862, 251 (Trinidad; Colombia); Cat. Birds Brit. Mus., xiv, 1888, 309, part (Calovevora, Santa Fé de Veragua, Mina de Chorcha, Chiriqui, Paraiso Station, and Panama City, Panama; Manaure, Santa Marta, Colombia; El Pilar and San Esteban, Venezuela; Trini-

[a] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Panama	73.2	51.3	10	18.9	12.5
Ten adult males from Colombia	73	52.6	10.1	18.6	12.3
Three adult males from Venezuela	73.2	51.5	9.8	19.2	12.2
Two adult males from Trinidad	71	46.7	9.7	18.5	11.5
FEMALES.					
Two adult females from Panama	70.5	43.5	10.5	18.2	11.7
Nine adult females from Colombia	71.4	45.8	10.8	18	11.8
One adult female from Venezuela	71.5	41	10	17	11

Specimens from Panama and most of those from Colombia are decidedly darker underneath than those from Venezuela and Trinidad, the color of the under parts in the former being slaty black (more slaty posteriorly) and in the latter dark olivaceous-slate. One specimen from Santa Marta, however, is in this respect precisely like Venezuelan and Trinidad examples, while all others in a considerable series are like those from Panama.

[b] Although usually cited as possibly this species, this certainly can not be the same, since the rump and upper tail-coverts are said to be red and the under parts white!

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dad).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 362 (Lion Hill, Panama; crit.); 1868, 168, 628 (Venezuela).—SALVIN, Proc. Zool. Soc. Lond., 1867, 150 (Santa Fé de Veragua and David, Panama); 1870, 200 (Mina de Chorcha, Chitra, Boquete de Chitra, Calobre, Castillo, and Calovevora, Panama); Cat. Strickland Coll., 1882, 320 (Trinidad).—FINSCH, Proc. Zool. Soc. Lond., 1870, 574 (Trinidad).—SALVIN and GODMAN, Ibis, 1879, 202 (Manaure, Province Santa Marta, Colombia, alt. 2,700 ft.); Biol. Centr.-Am., Aves, ii, 1890, 112.—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 672 (Margarita I., Venezuela; habits; song; descr. nest and eggs).—PHELPS, Auk, xiv, 1897, 365 (Cumanacoa, Venezuela).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia); Auk, xviii, 1901, 365 (Divala and David, Panama); Proc. New Engl. Zool. Club, iii, 1902, 40 (Boquete, Panama, 3,000 to 5,000 ft.).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 155 (Bonda, etc., Santa Marta, Colombia); xxi, 1905, 288 (Bonda; descr. nest and eggs).—CLARK, Auk, xix, 1902, 263 (Margarita I.).—THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 217 (Sabana de Panama).

[*Chiroxiphia*] *lanceolata* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55.—SHARPE, Hand-list, iii, 1901, 157.

Pipra pareoloides D'ORBIGNY and LAFRESNAYE, Rev. Zool., 1838, 165 (Cartagena, Colombia).

P[*ipra*] *pareoloides* GRAY, Gen. Birds, i, 1847, 274.

Chiroxiphia caudata (not *Pipra caudata* Shaw) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 296 (line of Panama Railway).

CHIROPRION LINEARIS (Bonaparte).

LONG-TAILED MANAKIN.

Similar in coloration to *C. lanceolata*, but adult male with under parts intensely black and middle pair of rectrices greatly elongated and linear instead of lanceolate; adult female similar in coloration to that of *C. lanceolata* but middle pair of rectrices more elongated, narrower, and less pointed.

Adult male.—Forehead, loral region, sides of head, hindneck, wings, tail, upper tail-coverts, rump, and entire under parts uniform deep black; crown with a large, flattened, bright crimson crest of narrow, stiffened feathers, the elongated posterior portion with truncated or emarginate posterior outline, projecting over occiput; back and scapulars uniform greenish azure, cerulean, or china blue; bill dusky brown, brownish black, or black; iris brown; legs and feet light brownish yellow or buffy in dried skins, clear deep orange or orange-yellow in life; length (skins), 198–241 (218);[a] wing, 66–73.5 (70.5); tail, 121.5–165 (148.2);[a] exposed culmen, 8–9.5 (9); tarsus, 17–19.5 (18.8); middle toe, 11–13 (11.9).[b]

Adult female.—Above plain olive-green; beneath decidedly paler olive-greenish, deepest on chest, paler and (usually) more grayish on chin and throat, still paler posteriorly, where inclining to olive-whitish; bill horn color (more or less dusky); iris and feet as in adult

[a] Including elongated middle rectrices. [b] Sixteen specimens.

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male; length (skins), 121–153 (131); wing, 66–72.5 (69.3); tail, 42–69.5 (54.7); exposed culmen, 9.5–10 (9.7); tarsus, 17–19 (17.9); middle toe, 10.5–11.5 (10.9).[a]

Young male.—At first, precisely like the adult female in coloration, the crimson crown-patch being assumed before the first general molt; after the latter the plumage variously intermediate (according to age) between that of the young and the fully adult male.

Southern Mexico, in States of Oaxaca (Santa Efigenia; Tapana; Sierra de Santo Domingo) and Chiapas (Huehuetan), and southward through Guatemala (Savana Grande; Volcan de Agua; Volcan de Fuego; Retalhuleu; Medio Monte; Naranjo) and Nicaragua (Chontales; Realejo; Granada; Managua; Sucuyá) to Costa Rica (San José; La Palma de San José; Tres Rios, near San José; Irazú; Dota; San Mateo; Grecia; San Juan; Sabanillas; Guaitil; Escasú; Pozo Azul de Pirris; Pigres; La Palma de Nicoya; Bebedero; Las Trojas; Navarro; San Carlos; La Candelaria; Alajuela; Navarro; El Berilla; Volcan de Miravalles).

Pipra linearis BONAPARTE, Proc. Zool. Soc. Lond., 1837, 113 ("Mexico").—GOULD, Zool. Voy. "Sulphur," Birds, 1844, 40, pl. 20.

P[ipra] linearis HARTLAUB, Syst. Verz., 1844, 55 (Central America).—GRAY, Gen. Birds, i, 1847, 274.

[*Pipra*] *linearis* GRAY, Hand-list, i, 1869, 376, no. 5690.

[*Chiroxiphia*] *linearis* BONAPARTE, Consp. Av. i, 1850, 172.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55.—SHARPE, Hand-list, iii, 1901, 157.

Chiroxiphia linearis BONAPARTE, Notes Orn. Coll. Delattre, 1854, 88.—SCLATER, Cat. Am. Birds, 1862, 251 (Nicaragua); Cat. Birds Brit. Mus., xiv, 1888, 309 (Volcan de Agua, Volcan de Fuego, Medio Monte, and Savana Grande, Guatemala; Chontales, Nicaragua; Bebedero, Dota, San Juan, and Irazú district, Costa Rica).—SCLATER and SALVIN, Ibis, 1859, 124 (Vera Paz, Guatemala; Realejo and Granada, Nicaragua).—SALVIN, Ibis, 1860, 100 (Pacific slope, Guatemala); 1866, 203 (Pacific slope, Guatemala); 1872, 318 (Chontales, Nicaragua); Cat. Strickland Coll., 1882, 321 (Guatemala).—CABANIS, Journ.

[a] Seven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Oaxaca	71.5	131.7	9.2	18.2	12.5
Three adult males from Chiapas (1) and Guatemala (2)	69.5	141	9.3	19	11.5
Ten adult males from Nicaragua (2) and Costa Rica (8)	70.5	155.2	8.9	18.9	11.9
FEMALES.					
One adult female from Oaxaca	70	61	9.5	18	11
One adult female from Guatemala	66	48	9.5	17.5	11.5
Five adult females from Nicaragua (1) and Costa Rica (4)	69.9	54.4	9.8	17.9	10.8

According to the rather small series of adult males examined, those from Costa Rica and Nicaragua have invariably more elongated middle rectrices than those from Mexico and Guatemala, and, as a rule, a smaller and relatively narrower bill, but I am unable to detect any difference in coloration.

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für Orn., 1861, 252 (Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (San Mateo, El Berilla, and Grecia, Costa Rica); Bull. U. S. Nat. Mus., no. 4, 1876, 29 (Tapana, Oaxaca).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 66 (Navarro, Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 396 (La Palma, w. Costa Rica); vi, 1883, 384 (Sucuyá, Nicaragua; habits).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 500 (San José, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 112.—CHERRIE, Auk, ix, 1892, 322 (San José, Costa Rica).—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).—LANTZ, Trans. Kansas Ac. Sci. for 1896–97 (1899), 221 (Naranjo, Guatemala).

C[hiroxiphia] linearis CABANIS and HEINE, Mus. Heine, ii, 1859, 95, footnote (Central America).

Cercophæna linearis BONAPARTE, Consp. Voluc. Anisod., 1854, 6.

Pipra fastuosa LESSON, Rev. Zool., 1842, 174 (Realejo, Nicaragua).

Genus PIPRA Linnæus.

Pipra LINNÆUS, Mus. Adolph. Frid., Regis, ii, 1764, 32. (Type, by elimination, *Parus aureola* Linnæus.)

Pythis "Vieill[ot]" (not *Pithys* Vieillot, 1816) BOIE, Isis, 1826, 971. (Type, *Pipra leucocilla* Linnæus.)

Dixiphia REICHENBACH, Av. Syst. Nat., 1850, pl. 63. (Type, *Pipra leucocilla* Linnæus.)

Lepidothrix BONAPARTE, Consp. Voluc. Anisod., 1854, 6. (Type, *Pipra cyaneocapilla* Hahn and Kuster.)

Dasyncetopa "Schiff," BONAPARTE, Consp. Voluc. Anisod., 1854, 6. (Type, *Pipra serena* Linnæus.)

Small to very small Pipridæ (wing about 45–67 mm.), with tail much less than half as long as wing (its middle rectrices never elongated).

Bill small, much less than half as long as head, wedge-shaped in vertical profile, variable as to relative depth and width at base; culmen distinctly ridged, gradually curved from base, the tip of maxilla minutely uncinate; gonys about equal to mandibular rami, gently convex; maxillary tomium usually straight or nearly so, sometimes faintly concave, at least anteriorly, distinctly but minutely notched subterminally. Nostril mostly or at least largely exposed, longitudinally oval, linear or somewhat coma-shaped, overhung by a broad membraneous operculum. Rictal bristles distinct (but variable as to the degree of their development), the feathers of chin with distinct bristly recurved tips. Wing moderate, with longest primaries exceeding secondaries by less than length of commissure; seventh and eighth, eighth and ninth, or seventh to ninth primaries longest, the tenth not shorter than fourth (sometimes equal to fifth); outermost primaries normally broad. Tail decidedly less than half as long as wing (less than one-third as long in *P. erythrocephala*), even or very slightly rounded, the rectrices rounded or subtruncate at tip (except in *P. velutina*, in which they become distinctly narrowed terminally, with

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tip subacuminate). Tarsus about one-fourth as long as wing, its scutellation typically exaspidean; middle toe, with claw, a little shorter than tarsus, its second phalanx completely adherent to outer toe, the first phalanx wholly united to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux, without claw, about as long as inner toe, or slightly shorter, slender.

Plumage and coloration.—Contour plumage blended, the feathers of the pileum, however, sometimes narrow and distinctly outlined; head entirely feathered, without crest or frontal tuft; tibial feathers completely hiding heel joint, sometimes very full and soft, and extending over upper portion of tarsus. Adult males mostly uniform black (either velvety or glossy), (1) with pileum and sides of head scarlet or orange-yellow and thighs yellow or orange, (2) whole head, neck, and breast orange (abdomen yellow in one species), (3) crown blue, (4) pileum white and rump pale grayish blue, (5) forehead pale blue or bluish white, lower rump bright blue, abdomen yellow or orange, or (6) whole pileum pure white, the coloration otherwise entirely black; or (7) the upper parts green, with white pileum and rump, the under parts yellow. Adult females plain olive, olive-green, or dull green above, paler or more yellowish below.

Nidification.—(Unknown?)

Range.—Southern Mexico to Brazil, Bolivia, and Peru. (About twenty species and subspecies, only two of them occurring north of the Panama Railway.)

KEY TO THE SPECIES AND SUBSPECIES OF PIPRA.[a]

a. Color mainly black, this varied by red, orange, yellow, blue, or white. (Adult males.)

b. Pileum and sides of head, together with hindneck and sides of neck, scarlet, orange, or yellow.

c. Pileum, etc., scarlet.

d. Tail distinctly rounded, the lateral rectrices about 5 mm. shorter than middle pair; axillars and under wing-coverts black. (Peru and Bolivia.)
Pipra chloromeros, adult male (extralimital)[b]

dd. Tail even (truncated); axillars and under wing-coverts not black.

e. Thighs white, with scarlet on outer side; axillars and under wing-coverts partly black or dusky. (Eastern Brazil to northeastern Peru.)
Pipra rubrocapilla, adult male (extralimital)[c]

[a] As usual in the present work the more closely related extralimital forms are included for sake of comparison.

[b] *Pipra chloromeros* Tschudi, in Wiegmann's Archiv. für Naturg., x, pt. i, 1844, 271 (n. w. Peru); Fauna Peruana, Aves, 1849, 144, 145; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 295; Hellmayr, Ibis, 1906, 17 (monogr.).

[c] *Pipra rubrocapilla* Temminck, Pl. Col., livr. 9, Apr., 1821, pl. 54, fig. 3 (**Brazil**); Hellmayr, Ibis, 1906, 11 (monogr.).—*Pipra rubricapilla* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 295.—*Diriphia rubricapilla* Bonaparte, Consp. Voluc. Anisod., 1854, 6.—*P[ipra] erythrocephala* (not Linnæus) Lichtenstein, Verz. Doubl., 1823, 29.

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ee. Thighs wholly yellow; axillars and under wing-coverts yellow. (*Pipra mentalis.*)

f. Inner webs of remiges edged with pale yellow or yellowish white; yellow chin-spot larger.

g. Head lighter, more orange, red, distinctly paler anteriorly; thighs paler yellow; averaging slightly larger, with tail relatively longer. (Southern Mexico to Nicaragua.)

Pipra mentalis mentalis, adult male (p. 746)

gg. Head deeper red, scarcely paler anteriorly; thighs deeper yellow; averaging slightly smaller, with tail relatively shorter. (Costa Rica and Panama.).....**Pipra mentalis ignifera**, adult male (p. 747)

ff. Inner webs of remiges without yellow or whitish edges; yellow chin-spot smaller. (Western Ecuador.)

Pipra mentalis minor, adult male (extralimital)[a]

cc. Pileum, etc., orange-yellow or orange. (*Pipra erythrocephala.*)

d. Yellow of head deeper (intense orange-yellow to yellow-orange), nearly always margined posteriorly by a line of red; wing averaging shorter (57.9), bill larger (exposed culmen 9.5). (Cayenne to Panama.)

Pipra erythrocephala erythrocephala, adult male (p. 748)

dd. Yellow of head paler (chrome yellow), usually without a red posterior margin; wing averaging longer (59.6), bill smaller (exposed culmen 8.9) (Central Colombia to eastern Peru.)

Pipra erythrocephala berlepschi, adult male (extralimital)[b]

bb. Pileum (but not sides of head or neck) at least partly blue or white.

c. Crown blue.

d. Rump black, like rest of upper parts, or but faintly tinged with blue.

e. General color dull black or sooty black, more grayish on posterior under parts; blue of pileum covering occiput and most of forehead, margined with darker blue laterally. (Eastern Ecuador and Peru and northwestern Brazil.) .....**Pipra coronata**, adult male (extralimital)[c]

ee. General color intense velvety black; blue of pileum confined to crown, not margined laterally with darker blue. (Costa Rica to northwestern Ecuador.).....**Pipra velutina**, adult male (p. 750)

dd. Rump and upper tail-coverts azure blue. (Peru.)

Pipra cæruleocapilla, adult male (extralimital)[d]

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[a] *Pipra mentalis minor* Hartert, Novit. Zool., v, Dec. 31, 1898, 489 (Cachavi, n. w. Ecuador; coll. Tring Mus.); Hellmayr, Ibis, 1906, 16 (monogr.).—*Pipra mentalis*, subsp. *minor* Salvadori and Festa, Boll. Mus. Zool. Torino, xv, no. 362, 1899, 14 (Foreste del Rio Peripa, w. Ecuador).

[b] *Pipra auricapilla* (not *Pipra aurocapilla* Lichtenstein) Berlepsch, Journ. für Orn., 1884, 304, 305, part (Bogota, Colombia; e. Ecuador; crit.); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 296, part.—*Pipra erythrocephala* (not *Parus erythrocephalus* Linnæus) Hellmayr, Ibis, 1906, 20, part (monogr.).—*Pipra erythrocephala berlepschi* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 117 (Nauta, n. e. Peru; coll. U.S.Nat.Mus.).

[c] *Pipra coronata* Spix, Av. Bras., ii, 1825, 5, pl. 7, fig. 1 (Rio Solimoe, n. w. Brazil); Hellmayr, Ibis, 1906, 32 (monogr.).—*Pipra herbacea* Spix, Av. Bras., ii, 1825, 6, pl. 8a, fig. 1 (Amazon R., n. Brazil; = female).—*Pipra cyanocapilla* Hahn, Vögel aus Asien, etc., Lief. xv, 1826, pl. 3, fig. 2 (Brazil).—*P[ipra] cyaneocapilla* Bonaparte, Consp. Av., i, 1850, 174.—*Pipra cyaneocapilla* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 299

[d] *Pipra cæruleocapilla* Tschudi, in Wiegmann's Archiv. für Naturg., x, pt. i, 1844, 271 (Peru); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 300; Hellmayr, Ibis, 1906, 29 (monogr.).—[*Pipra*] *caeruleicapilla* Bonaparte, Consp. Av., i, 1850, 174.—*Pipra cæruleicapilla* Sclater, Proc. Zool. Soc. Lond., 1873, 782 (Cosnipata, Peru; crit.).

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cc. Crown white.

d. Rump light blue; white of pileum faintly tinged with bluish, the feathers narrow, pointed, distinctly outlined. (*Pipra isidorei.*)

e. Rump light azure or flax-flower blue. (Colombia and eastern Ecuador.)

Pipra isidorei isidorei, adult male (extralimital)[a]

ee. Rump very pale blue or whitish blue. (Northern Peru.)

Pipra isidorei leucopygia, adult male (extralimital)[b]

dd. Rump black, like rest of upper surface; white of pileum pure, the feathers soft and blended. (*Pipra pipra.*)

e. Under parts of body wholly black.

f. Feathers of nape less elongated, dusky at base.

g. Black of plumage more intense, slightly glossy, blue-black. (Cayenne, British Guiana, and Venezuela.)

Pipra pipra pipra, adult male (extralimital)[c]

gg. Black of plumage opaque velvety black.

h. Smaller (wing 59.5–63, tail 25–27); black less intense or slightly less bluish; longer under tail-coverts tipped with grayish. (Costa Rica and Panama.)....**Pipra pipra anthracina**, adult male (p. 751)

hh. Larger (wing 65–71.5, tail 30–34); black more intense or slightly more bluish; under tail-coverts entirely deep black. (Colombia to central Peru.)..**Pipra pipra coracina**, adult male (extralimital)[d]

ff. Feathers of nape more elongated, forming a distinct nuchal crest, white to extreme base. (Central Peru.)

Pipra pipra comata, adult male (extralimital)[e]

ee. Under parts of body, posterior to breast, dull grayish black or blackish slate. (Eastern Brazil.)..**Pipra pipra bahiæ**, adult male (extralimital)[f]

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[a] *Pipra isidorei* Sclater, Rev. et Mag. de Zool., 1852, 9 (Colombia; coll. Mus. N. H. Paris); in Jardine's Contr. Orn., 1852, 132, pl. c, fig. 1.—*Pipra isidori* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 298.—*Pipra isidorii* Hellmayr, Ibis, 1906, 28 (monogr.).

[b] *Pipra isidori* (not of Sclater) Taczanowski, Proc. Zool. Soc. Lond., 1882, 23 (Huambo, n. Peru); Orn. du Pérou, ii, 1884, 342.—*Pipra isidorei leucopygia* Hellmayr, Verh. K. K. Zool.-bot. Gesells. Wien, May 22, 1903, 200 (Huambo, n. Peru; coll. Vienna Mus.).—*Pipra isidorii leucopygia* Hellmayr, Ibis, 1906, 29 (monogr.).

[c] [*Parus*] *pipra* Linnæus, Syst. Nat., ed. 10, 1758, 190 ("Indiis;" based on Seba, Mus., ii, 102, pl. 96, fig. 5).—*Pipra leucocilla* Linnæus, Mus. Adolph. Frid. Regis., ii, 1764, 32 (based on *Parus pipra* Linnæus); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 297, part; Hellmayr, Ibis, 1906, 22, part (monogr.).

[d] *Pipra coracina* Sclater, Proc. Zool. Soc. Lond., 1856, 29 (Bogota, Colombia; coll. P. L. Sclater).—*P*[*ipra*] *leucocilla coracina* Berlepsch and Stolzmann, Ibis, 6th ser., July, 1894, 392, in text; Berlepsch and Hartert, Novit. Zool., ix, 1902, 53, in text.—*Pipra leucocilla coracina* Hellmayr, Ibis, 1906, 26 (monogr.).—*Pipra leucocilla* (not of Linnæus) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 297, part.

[e] *Pipra comata* Berlepsch and Stolzmann, Ibis, 6th ser., vi, July, 1894, 392 (Garita del Sol, e.-centr. Peru; coll. Count von Berlepsch).—*Pipra leucocilla comata* Hellmayr, Ibis, Jan., 1906, 27 (monogr.).

[f] *P*[*ipra*] *leucocilla* (not of Linnæus) Cabanis and Heine, Mus. Hein., ii, 1859, 93 (Bahia).—*Pipra leucocilla* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 297, part; Hellmayr, Ibis, 1906, 22, part (monogr.).—(?) *Pipra cephaleucos* Thunberg, Mém. Ac. Imp. St. Pétersb., viii, 1822 (see Lönnberg, Ibis, 1903, 241).—*Pipra pipra bahiæ* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 117 (Bahia, e. Brazil; coll. U. S. Nat. Mus.).

I do not know whether specimens from southern Brazil are referable to this form or not, the only Brazilian examples of the species that I have seen being a series from Bahia.

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aa. Color plain olive-green or dull grass-green above, the pileum and hindneck sometimes slate-grayish; beneath light yellowish olive, light olive-green, or grayish, the chest deeper in color; no red, orange, yellow, nor blue. (Adult females and young.)

b. Pileum and hindneck concolor with back (never grayish); axillars and under wing-coverts pale yellow or olive-whitish.

c. Upper parts olive-green (more or less brownish); under wing-coverts pale yellow or yellowish white; maxilla horn brown, feet pale yellowish (flesh colored in life).

d. Tail distinctly rounded..**Pipra chloromeros**, female and young (extralimital)

d. Tail even or truncated.

e. Tail shorter (21–24 mm.)

Pipra erythrocephala erythrocephala, female and young (pp. 748, 749)

ee. Tail longer (more than 25 mm.).

f. Axillars and under wing-coverts pale yellow; under parts light olive-greenish....**Pipra mentalis mentalis**, female and young (pp. 746, 747)[a]

Pipra mentalis ignifera, female and young (p. 747)[a]

ff. Axillars and under wing-coverts olive-whitish; under parts light grayish olive.....**Pipra rubrocapilla**, female and young (extralimital)

cc. Upper parts grass green.....**Pipra velutina**, female and young (p. 750)[b]

Pipra cæruleocapilla, female and young (extralimital)[b]

Pipra coronata, female and young (extralimital)[b]

bb. Pileum and hindneck more or less distinctly more grayish than back[c] (sometimes pure slate-gray), axillars and under wing-coverts light gray (usually more or less tinged with yellowish olive.[c] (*Pipra pipra*, females and young.)

c. Tail longer (28.5–36 mm.).

d. Smaller (wing not more than 68, tail not more than 34 mm.).

e. Smaller, with relatively shorter tail (wing 61–66, tail 28.5–29.5 mm.).

Pipra pipra pipra, female and young (extralimital)[d]

Pipra pipra anthracina, female and young (p. 752)[d]

ee. Larger, with relatively longer tail (wing 65–68, tail 32–34 mm.); adult females said to have the pileum and hindneck clear slate-gray.

Pipra pipra coracina, female and young (extralimital)

dd. Larger (wing 70, tail 36 mm.).

Pipra pipra comata, female and young (extralimital)

cc. Tail shorter (26.5–27 mm.).

Pipra pipra bahiæ, female and young (extralimital)[e]

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[a] I am unable to find constant differences between these two forms.

[b] The females and young of these three forms are apparently not distinguishable.

[c] In occasional specimens, probably very young birds, there is little difference in color between the pileum and back, but the difference is nevertheless appreciable. In such examples the axillars and under wing-coverts are decidedly yellowish olive instead of gray.

[d] Having only one female of *P. p. anthracina* for comparison, I am unable to say whether there are constant color differences between that sex of this form and *P. p. pipra*. It certainly differs sufficiently from any of the females of true *P. p. pipra* before me (one from British Guiana and five from Suapuré, Venezuela) in having the pileum and hindneck dark slate-gray or slate color strongly contrasted with the bright olive-green of the back, in this respect agreeing with a young male of *P. p. pipra*; but the back, scapulars, and outer surface of greater wing-coverts and secondaries are very much brighter olive-green and the chest extensively and uniformly yellowish olive-green instead of merely tinged with that color. It is possible the specimen is in reality a young male, and not an adult female; but whether correctly sexed or not, it is easily distinguishable from either the adult female or young male of *P. p. pipra*.

[e] The single female examined of this form is easily distinguished from any one of five females of *P. p. pipra*, from British Guiana and Venezuela, being grayer beneath and having the pileum and hindneck rather light slate-gray (much paler than in the young male of *P. p. pipra*) strongly tinged with olive-green. It resembles rather

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PIPRA MENTALIS MENTALIS Sclater.

YELLOW-THIGHED MANAKIN.

Adult male.—Head and neck, except chin and throat, intense flame scarlet or orange-vermilion, becoming paler and more orange on forehead, the feathers pale yellow or yellowish white basally; chin (more or less extensively) pale yellow or yellowish white; thighs pale (primrose or straw) yellow; axillars and innermost under wing-coverts pale (primrose) yellow; inner webs of remiges grayish brown, the primaries passing into grayish white, the secondaries into pale yellow or yellowish white on edges for basal half (approximately); rest of plumage uniform black; maxilla horn brown, paler on tomia; mandible pale brownish (flesh colored in life); iris white;[a] legs and feet isabella color;[a] length (skins), 89–110 (100); wing, 53.5–61.5 (58.4); tail, 25–29.5 (27.8); exposed culmen, 8.5–10 (9.4); tarsus, 14–16 (15); middle toe, 9.5–11 (10.1).[b]

Adult female.—Above plain greenish olive or dull olive-green; beneath decidedly paler olive, still paler and sometimes suffused with pale yellowish, on chin and throat and also on abdomen, thighs, and under tail-coverts, which sometimes incline to olivaceous primrose yellow or greenish straw yellow; axillars and innermost under wing-coverts pale (straw or primrose) yellow; bill and feet as in adult male; length (skins), 97–116 (104); wing, 59.5–63 (61.3); tail, 29.5–33.5 (31.6); exposed culmen, 9.5–11.5 (10.1); tarsus, 14–15.5 (14.9); middle toe, 9–10.5 (9.9).[c]

closely two specimens from Chamicuros, eastern Peru, both determined as females, one of which has the pileum and hindneck much more strongly tinged with olive-green, while the other has them less so, the gray being at the same time slightly darker. These two Peruvian birds further agree with the Bahia specimen in their very short tail (only 26 mm. in both specimens, the wing being 59.5 and 60), and it is therefore possible the bird from eastern Peru may be referable to *P. p. bahiæ*, though its status can not be determined without examination of adult males.

[a] C. W. Richmond, Proc. U. S. Nat. Mus., xvi, 1893, 509.

[b] Nineteen specimens.

[c] Fourteen specimens.

Notwithstanding the very small size of specimens from southern Honduras, they are according to coloration strictly referable to the northern form.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Tabasco (5) and Campeche (1)	59.3	29	9.2	14.9	10.1
Eleven adult males from Guatemala and Honduras	57.7	27.6	9.5	15.3	10.2
Two adult males from southern Honduras (Segovia River)	53.5	25.2	9	14	9.5
Eighteen adult males (*P. m. ignifera*) from Costa Rica and Panama	57.7	24.9	9.9	14.8	10.4
FEMALES.					
Three adult females from Tabasco	62.2	32	10.8	15	10.3
Eleven adult females from Guatemala, British Honduras, and Honduras	60.7	31.5	9	14.8	9.7
Twelve adult females (*P. m. ignifera*) from Costa Rica and Panama	59.6	27.2	10.7	14.8	9.9

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Young male.—Similar in coloration to the adult female.

Southeastern Mexico, in States of Vera Cruz (Cordova; Playa Vicente; Potrero; Mirador; Santa Lucrecia; Tolosa), Tabasco (Teapa), Campeche (Canasayat) and Yucatan (Tizimin; Meco Island; Mujeres Island), and southward through Guatemala (Choctum; Coban; sources of Rio de la Pasion; Yzabal), British Honduras (Orange Walk; Cayo; near Manatee Lagoon) and Honduras (Ceiba; Chamelicon; Segovia River) to Nicaragua (Chontàles; La Libertad; Rio Escondido).

Pipra mentalis SCLATER, Proc. Zool. Soc. Lond., 1856, 299, pl. 121 (Cordova, Vera Cruz; coll. A. Sallé); 1859, 385 (Playa Vicente, Vera Cruz); Cat. Am. Birds. 1862, 249 (Choctum, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 295, part (Cordova, Vera Cruz; Tizimin, Mujeres I. and Meco I., Yucatan; Honduras; sources Rio de la Pasion and Choctum, Guatemala; Chontales, Nicaragua).—SCLATER and SALVIN, Ibis, 1859, 125 (Guatemala); Proc. Zool. Soc. Lond., 1870, 837 (Honduras).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 558 (Vera Cruz).—SALVIN, Ibis, 1872, 318 (Chontales, Nicaragua); 1889, 364 (Meco and Mujeres islands, Yucatan; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 108, part (Cordova and Playa Vicente, Vera Cruz; Teapa, Tabasco; Tizimin, Meco I. and Mujeres I., Yucatan; Orange Walk and Cayo, British Honduras; Choctum and Yzabal, Guatemala; Chontales, Nicaragua).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 509 (Rio Escondido, Nicaragua; habits; colors of unfeathered parts).—HELLMAYR, Ibis, 1906, 13 (monogr.).

[*Pipra*] *mentalis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 54, part.—SHARPE, Hand-list, iii, 1901, 154, part.

P[*ipra*] *mentalis* HELLMAYR, Ibis, 1906, 3, 5 (in key).

Pipra mentalis mentalis BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, July, 1903, 149 (Ceiba, Honduras; crit.).

PIPRA MENTALIS IGNIFERA Bangs.

SOUTHERN YELLOW-THIGHED MANAKIN.

Similar to *P. m. mentalis*, but adult male with red of head and neck more intense (bright vermilion to poppy red), thighs deeper yellow (canary to chrome); averaging slightly smaller, with tail relatively shorter.

Adult male.- Length (skins), 88–99 (94); wing, 52.5–61 (57.7); tail, 23–27 (24.9); exposed culmen, 9–11 (9.9); tarsus, 14–15.5 (14.8); middle toe, 9.5–11.5 (10.4).[a]

Adult female.—Length (skins), 93–105 (98.4); wing, 55.5–63 (59.6); tail, 25–31.5 (27.2); exposed culmen, 10–12 (10.7); tarsus, 14–15.5 (14.8); middle toe, 9.5–10 (9.9).[b]

[a] Eighteen specimens.

[b] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Costa Rica	57.8	25.2	9.7	14.7	10.3
Ten adult males from Panama	57.7	24.9	9.9	14.8	10.4
FEMALES.					
Seven adult females from Costa Rica	60.6	27.7	10.6	15.1	10.1
Five adult females from Panama	58.2	26.6	10.6	14.4	9.7

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Costa Rica (Angostura; Tucurriqui; Turrialba; San Carlos; Paiz; Tuiz; Pozo Azul de Pirris; Pozo del Pital; Boruca; Cuabre; Talamanca; Volcan de Miravalles) and Panama (Divala; Bugaba; Mina de Chorcha; Panama; Lion Hill; Sevilla Island).

Pipra mentalis (not of Sclater, 1856) SCLATER and SALVIN, Ibis, 1864, 362 (Panama; crit.).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (Angostura, Paiz, and Tucurriqui, Costa Rica).—FRANTZIUS, Jour. für Orn., 1869, 309 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1870, 200 (Mina de Chorcha and Bugaba, Panama).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 66 (San Carlos, Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 295, part (Angostura, Tucurriqui, and Turrialba, Costa Rica; Bugaba, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 108, part (Angostura, etc., Costa Rica; Bugaba, Mina de Chorcha, and Lion Hill, Panama).—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 536 (Costa Rica; descr. female).—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).

[*Pipra*] *mentalis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 54, part.—SHARPE, Hand-list, iii, 1901, 154, part.

Pipra mentalis ignifera BANGS, Auk, xviii, Oct., 1901, 363 (Divala, Chiriqui, Panama; coll. E. A. and O. Bangs).—HELLMAYR, Ibis, 15, 1906 (monogr.).

P[*ipra*] *m*[*entalis*] *ignifera* HELLMAYR, Ibis, 1906, 3, 5 (in key).

Chiroxiphia mentalis LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 296 (Lion Hill, Panama).

PIPRA ERYTHROCEPHALA ERYTHROCEPHALA (Linnæus).

YELLOW-HEADED MANAKIN.

Adult male.—Head and neck, except chin and throat, intense orange-yellow (cadmium yellow to orange[a]), deepest posteriorly, where usually margined by a line (more or less broad, usually very narrow) of orange-red; thighs white with a patch of scarlet covering lower half (more or less) of outer side; rest of plumage uniform glossy blue-black, the axillars and under wing-coverts duller black, the inner webs of remiges dusky grayish brown, or sooty; bill pale brownish or brownish white in dried skins, the maxilla pale brown or grayish, the mandible white in life[b] or whole bill pearl white;[c] iris snow white or cream white[c] (rarely grayish white[b]); legs and feet pale flesh color or pinkish white[b] or pearl gray;[c] length (skins), 78–99 (82); wing, 51–59 (57.9); tail, 14.5–21.5 (19.2); exposed culmen, 8.5–10 (9.5); tarsus, 13–14.5 (13.7); middle toe, 8.5–10 (9.3).[d]

Adult female.—Above plain dull olive-green, sometimes slightly more yellowish on pileum and hindneck, and more grayish on upper back; beneath pale olive-yellowish or olive-buffy, the chest light olive, the sides and flanks more or less strongly tinged with the same; axillars and under wing-coverts pale primrose yellow or yellowish white; bill, iris, and feet as in adult males; length (skins), 84–98 (90); wing,

[a] Ridgway's Nomenclature of Colors, pl. 6, fig. 3.
[b] S. N. Klages, manuscript.
[c] Cherrie.
[d] Thirty-five specimens.

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58–61 (59); tail, 18.5–21.5 (19.9); exposed culmen, 9–10 (9.5); tarsus, 13.5–14 (13.7); middle toe, 9–10 (9.4).[a]

Young male.—Similar in coloration to the adult female.

Eastern Panama (Chepo) and northern Colombia (Onaca, Bonda, Las Queles, Las Nubes, Minca, Valparaiso, La Concepcion, Santa Marta, Chirua, and Sierra Nevada de Santa Marta, Province of Santa Marta; Remedios and Neche, Antioquia?;[b] Cauca; Cauca Seca; Bucaramanga; Turbo; Agua Dulce), and eastward through Venezuela to Trinidad and Cayenne.

[*Parus*] *erythrocephalus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 191 (South America; based on *Parus auricapillus* Klein. Av., 86; *Parus niger, capite fulvo* Edwards, 21, pl. 21).

[*Pipra*] *erythrocephala* LINNÆUS, Syst. Nat., ed. 12, 1766, 339.—GRAY, Hand-list, i, 1869, 377, no. 5718.

Pipra erythrocephala DESMAREST, Tangaras, 1805, pls. 60, 61.—HAHN and KÜSTER, Vög., lief. xv, 1822, pl. 3, fig. 1.—VIEILLOT, Tabl. Enc. Méth., 1823, 261.—LESSON, Traité d' Orn., 1831, 258.—TEMMINCK, Tabl. Méth., 1838. 22.—LÈOTAUD, Ois. Trinidad, 1866, 255.—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 53 (Maipures, Samborge, Nericagua, Suapure, La Pricion, Nicare, and La Union, Venezuela; colors of unfeathered parts).—HELLMAYR, Ibis, 1906, 20 (monogr.); Novit. Zool., xiii, 1906, 27 (Caparo, Valencia, Point Gourde, and Chaguaramas, Trinidad; crit.).

[a] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Cayenne (3) and British Guiana (7)	55.4	18.8	9.1	13.7	9.1
Ten adult males from Venezuela	57.2	18.4	9.3	13.6	9.4
Nine adult males from Trinidad	56.9	20.6	9.2	13.6	9.6
Six adult males from northern Colombia	56.5	16.5	9.1	13.8	9
Four adult males (*P. e. berlepschi*) from central Colombia	58.1	18.5	8.5	13.3	8.8
Eleven adult males (*P. e. berlepschi*) from eastern Ecuador (9) and Peru (2)	59.6	19.1	8.9	13.8	9.8
One adult male (*P. e.* —— ?) from lower Amazon (Pará)	52	16.5	9.5	.....	.....
FEMALES.					
Two adult females from Cayenne and British Guiana	56.2	20.7	9.2	14	9.2
Three adult females from Venezuela	58.8	20	9.3	13.8	9.5
Seven adult females from northern Colombia	59.9	19.6	9.6	13.6	9.4
One adult female (*P. e. berlepschi*) from central Colombia	60.5	21.5	9	14	10

An adult male from the lower Magdalena, Colombia, is abnormally small, its measurements being: Wing, 51; tail, 14.5; exposed culmen, 8.5; tarsus, 13; middle toe. The next smallest Colombian specimen is one from Turbo, which measures: Wing, 55; tail, 17; exposed culmen, 8.5; tarsus, 13.5; middle toe, 8.5. Excluding these two specimens, the minimum of each measurement in the remaining series of thirty-three examples is as follows: Wing, 54 (specimen from British Guiana); tail, 16.5; exposed culmen, 8.5; tarsus, 13; middle toe, 9—none of these minimum measurements occurring in the Colombian series except that of the tail.

[b] I have not seen specimens from the State of Antioquia, but geographically they should be referable to the present form.

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P[ipra] erythrocephala GRAY, Gen. Birds, i, 1847, 274.—BONAPARTE, Consp. Av., i, 1850, 173, part (Cayenne).—HELLMAYR, Ibis, 1906, 3, 15 (in key).

Dixiphia erythrocephala BONAPARTE, Consp. Voluc. Anisod., 1854, 6.

(?) [*Pipra*] *cristata* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 329 (based on *Manacus cristatus ruber* BRISSON, Orn., iv, 461 [a]) WAGLER, Isis, 1830, 942.

(?) *P[ipra] cristata* GRAY, Gen. Birds, i, 1847, 274.

Pipra auricapilla (not of Lichtenstein) CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 696.—SCLATER, Cat. Am. Birds, 1862, 249, part (Cayenne); Cat. Birds Brit. Mus., xiv, 1888, 296, part (Cayenne; Maroni R., Surinam; Demerara, Bartica Grove, Camacusa, Attapurau R., and Roraima, British Guiana; Cauca, Minca, and Bucaramanga, Colombia; Chepo, Isthmus Panama).—TAYLOR, Ibis, 1864, 87 (Trinidad).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 628 (San Esteban, Venezuela); 1879, 516 (Remedios, Antioquia, Colombia).—LAYARD, Ibis, 1873, 384 (Pará).—FINSCH, Proc. Zool. Soc. Lond., 1870, 573 (Trinidad; crit.).—SALVIN and GODMAN, Proc. Zool. Soc. Lond., 1880, 169 (Minca, Santa Marta, Colombia, 2,000 ft.); Biol. Centr.-Am., Aves, ii, 1890, 109 (Chepo, Isthmus Panama, etc.).—SALVIN, Cat. Strickland Coll., 1882, 319 (Trinidad); Ibis, 1885, 300 (Bartica Grove, Camacusa, Merumé Mts., Atapurau R., and Roraima, 3,500 ft., British Guiana).—BERLEPSCH, Journ. für Orn., 1884, 276, 304 (Bucaramanga, Colombia; crit.).—BANGS, Proc. Biol. Soc. Wash., xii, 1898, 137 (Santa Marta, Colombia).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 156 (Bonda, etc., Santa Marta).

P[ipra] auricapilla CABANIS and HEINE, Mus. Hein., ii, 1859, 92 (Cayenne).

[*Pipra*] *auricapilla* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 54, part.—SHARPE, Hand-list, iii, 1901, 154, part.

Pipra aurocapilla CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 45 (Trinidad; habits).

PIPRA VELUTINA Berlepsch.

VELVETY MANAKIN.

Adult male.—Uniform deep black, passing into dusky olive on abdomen, flanks, and under tail-coverts; crown covered by a large oval patch of bright cobalt or ultramarine blue, the feathers blackish basally (this more or less exposed); maxilla black with paler tomia, mandible horn color (in dried skins); iris brown;[b] legs and feet dusky horn color (in dried skins); length (skins), 78–93 (85.9); wing, 58–64.5 (61.6); tail, 24.5–27.5 (26.2) exposed culmen, 8–9.5 (8.9); tarsus, 13.5–15.5 (14.2); middle toe, 9–9.5 (9.2).[c]

Adult female.—Above plain dull parrot green, paler and duller (more olive-green) on edges of primaries and rectrices; chin and throat pale olive-green or grayish, usually intermixed with whitish (especially on chin); chest dull parrot green or deep olive-green; rest of under parts pale yellowish olive or olive-yellowish, the sides and flanks tinged with olive-green; axillars and under wing-coverts pale

[a] *P[ipra] purpurea* Vieillot, Tabl. Enc. Méth, ii, 1823, 263 (Brazil; Mexico; based on Brisson, Orn., iv, 462, no. 12; Buffon, Hist. Nat. Ois., viii, 171, etc.), is described as having the upper and under parts purple, tail red, crest (pendant) yellow; consequently I can see no reason whatever for suggesting possible connection with the present species.

[b] José C. Zeledon, manuscript.

[c] Seventeen specimens.

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yellowish gray, or very pale dull olive-yellowish; bill, iris, and feet as in adult male; length (skins), 84–95 (90); wing, 57–64 (60.3); tail, 25.5–28.5 (26.8); exposed culmen, 8–10.5 (9.4); tarsus, 13–14.5 (14.1); middle toe, 8.5–9.5 (8.9).[a]

Southwestern Costa Rica (Boruca; Pozo Azul de Pirris; Pozo del Pital), Panama (Divala; Santa Fé de Veragua; Bugaba; Volcan de Chiriqui; Lion Hill) and through western Colombia (Remedios, Medellin, and Neche, Antioquia; Yuntas, Rio Dagua) to northwestern Ecuador (Cachavi; San Javier).

Chiroxiphia cyaneocapilla (not *Pipra cyaneocapilla* Hahn) LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862, 296 (Lion Hill, Panama, R. R.).

Pipra cyaneocapilla (not of Hahn) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 362 (Panama; crit.); 1879, 517 (Antioquia, Colombia).—SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Santiago de Veragua, Panama); 1870, 200 (Bugaba and Volcan de Chiriqui, Panama).

Pipra velutina BERLEPSCH, Ibis, Oct., 1883, 492 (Veragua, Panama; coll. Count von Berlepsch).—REICHENOW and SCHALOW, Journ. für Orn., 1886, 89 (reprint of orig. descr.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 299 (Bugaba, Lion Hill and Panama City, Panama; Remedios, Province Antioquia, Colombia).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 110.—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 535 (Pozo Azul, Costa Rica; crit.; descr. female).—HARTERT, Novit. Zool., v, 1898, 488 (Cachavi, n. w. Ecuador).—BANGS, Auk, xviii, 1901, 364 (Divala, Panama).—HELLMAYR, Ibis, 1906, 30 (monogr.).

[*Pipra*] *velutina* SHARPE, Hand-list, iii, 1901, 154.

P[*ipra*] *velutina* HELLMAYR, Ibis, 1906, 3, 5 (in Key).

PIPRA PIPRA ANTHRACINA Ridgway.

ZELEDON'S MANAKIN.

Adult male.—Entire pileum and hindneck uniform white; rest of plumage intense, but not lustrous, velvety black, the longer under tail-coverts duller black, narrowly tipped (more or less distinctly) with grayish, the remiges and larger wing-coverts brownish black, the secondaries edged with velvety black; bill dusky horn color (in dried skins), the maxillary tomia and terminal portion of mandible paler; iris dark [brown];[b] legs and feet horn color (in dried skins);

[a] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Costa Rica	63.1	26.4	9.3	14.5	9.3
Eleven adult males from Panama	60.7	26.1	8.7	14.1	9.2
FEMALES.					
Three adult females from Costa Rica	62.7	27.7	9.7	14.5	8.8
Nine adult females from Panama	59.5	26.5	9.3	13.9	8.9

[b] José C. Zeledón, manuscript.

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length (skins), 75–90 (81); wing, 59.5–63 (60.6); tail, 25–27 (26); exposed culmen, 9–10 (9.4); tarsus, 14.5; middle toe, 8.5–10 (9.2).[a]

Adult female.[b]—Pileum and hindneck and sides of head and neck plain slate color, slightly tinged with olive-green; back and scapulars uniform olive-green, the rump, upper tail-coverts, and tail more grayish olive-green; wing-coverts slate-grayish, slightly tinged with olive-green; remiges grayish brown, the secondaries with outer webs mostly olive-green, the primaries edged with gray; chin and throat light gray, washed with olive-green, chest uniform, rather light, olive-green; rest of under parts grayish washed with olive-green, passing into dull yellowish white on abdomen and under tail-coverts; axillars and under wing-coverts light gray; bill, legs, and feet as in the male; length (skin), 85; wing, 61; tail, 29; exposed culmen, 10.5; tarsus, 14.5; middle toe, 9.5.[c]

[a] Four specimens.

[b] Since Hellmayr, who refers the Panama birds of this species to *P. p. pipra*, describes the adult female of that form as having the pileum and hindneck as olive-greenish though in most specimens "distinctly mixed with grayish," it is possible the specimen described above is wrongly sexed and is really a young male. Hellmayr, however, apparently had no female from any Panama locality, and it may be, therefore, that the female of the Panama form in reality has the pileum and hindneck slaty, as in females of *P. p. coracina* and *P. p. comata*.

Immature males of the Bahia form (and probably also other forms) have the whole pileum white, as in adult males, but the rest of the plumage, instead of being black, is deep olive-green above (becoming slaty on upper back and hindneck) and plain slate-gray beneath, slightly tinged on chest and sides with olive-green. A similar stage of plumage probably occurs in the Panama form.

[c] One specimen (from Cordillera de Tolé, Panama).

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males (*P. p. pipra*) from British Guiana	63.5	25.3	10.3	14.5	9.2
Six adult males (*P. p. pipra*) from Venezuela	65.2	26.8	10	14.7	9.8
Three adult males (*P. p. anthracina*) from Panama	59.8	25.7	9.5	14.5	8.7
One adult male (*P. p. anthracina*) from Costa Rica	63	27	9	14.5	10
One adult male (*P. p. coracina*) from Colombia (Bogota)	71.5	27	9.5	14.5	11
One adult male (*P. p. coracina* ?) from eastern Ecuador (Rio Napo)	65	27	9	14	9
Seven adult males (*P. p. bahiæ*) from southeastern Brazil (Bahia)	62.9	24.5	9.1	14.5	9.4
One adult male (*P. p. comata*) from northeastern Peru (Garita del Sol)	68	35	8.5	15	11
FEMALES.					
One adult female (*P. p. pipra*) from British Guiana	64.5	28.5	11	14.5	9.5
Four adult females (*P. p. pipra*) from Venezuela	64.6	28.9	10.6	14.5	9.4
One adult female (*P. p. anthracina*) from Panama	61	29	10.5	14.5	9.5
Two adult females (*P. p.* —— ?) from eastern Peru (Chamicuros)	59.7	26	9.2	13	9
One adult female (*P. p. bahiæ*) from southeastern Brazil (Bahia)	58	26.5	10	.....	.....

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Panama (Cordillera de Tolé; Chitra; Boquete de Chitra; Calovevora; Santa Fé de Veragua), and southwestern Costa Rica (Moravia).

Pipra leucocilla (not of Linnæus) SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Cordillera de Tolé, Panama); 1870, 200 (Chitra, Boquete de Chitra, and Calovevora, Panama).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 297, part (Chitra, Calovevora, Cordillera de Tolé, and Santa Fé de Veragua, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 110, part (Chitra, etc., Panama).—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 536 (descr. females from Costa Rica).

[*Pipra*] *leucocilla* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 54, part.—SHARPE, Hand-list, iii, 1901, 154, part.

Pipra pipra anthracina RIDGWAY, Proc. Biol. Soc. Wash., xix, Sept. 6, 1906, 117 (Moravia, Costa Rica; coll. U. S. Nat. Mus.).

Genus CORAPIPO Bonaparte.

Corapipo BONAPARTE, Consp. Voluc. Anisod., 1854, 6. (Type, *Pipra gutturalis* Linnæus.)

Coropipo [a] (emendation) CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 94.

Small Pipridæ (wing about 54–60 mm.) resembling *Pipra*, but nostril very different (broadly oval or roundish and non-operculate), tail half as long as wing, and adult males with two or three outer primaries narrow, the tenth (outermost) not longer than second (shorter than first in one species).

Bill less than half as long as head, its depth at nostrils about equal to its width at same point; culmen straight basally, then gradually curved, the tip of maxilla very minutely uncinate; gonys about as long as mandibular rami, faintly convex; maxillary tomium faintly concave, at least anteriorly, minutely notched subterminally. Nostril mostly exposed (though posterior margin covered by bristly plumules of laterofrontal antiæ), rather large, roundish or broadly oval, without superior operculum. Rictal bristles obvious, but rather small. Wing moderate, with longest primaries exceeding secondaries by more than length of exposed culmen; adult males with two or three outer primaries narrowed for whole length, the seventh longest, sixth and eighth decidedly shorter and equal, ninth intermediate between fifth and sixth, and tenth (outermost) much shorter than first (*C. leucorrhoa*), or eighth longest, seventh and ninth a little shorter and equal, and tenth equal to fourth (*C. gutturalis*). Tail half as long as wing or slightly more, even or very slightly emarginate, the rectrices moderately broad or rather narrow, with rounded or subtruncate tip. Tarsus more than half as long as tail, its covering typically exaspidean; heel joint denuded, except in front and part of sides; middle, toe (with claw) much shorter than tarsus,

[a] "Von *χόρη* (Pupille d. h. glänzend Schwarz) und *πιπώ*=*πιπρα*."

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its second phalanx wholly adherent to outer toe, its first phalanx entirely united to inner toe; outer toe, without claw, reaching nearly to base of terminal phalanx of middle toe, the inner toe much shorter, reaching (without claw) to but little beyond base of subterminal phalanx of middle toe; hallux (without claw) as long as inner toe.

Plumage and coloration.—Contour plumage broad and blended, that of the upper surface, in adult males, compact and glossy, with feathers of pileum rather distinctly outlined; no crest nor frontal tuft. Adult males uniform glossy blue-black above, velvety black beneath, with whole throat (sometimes side of neck also) pure white; adult females olive-green, paler below, with throat more grayish and abdomen more yellowish.

Nidification.—(Unknown?)

Range.—Nicaragua to Guiana. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF CORAPIPO.

a. Glossy blue-black or dark steel blue, with chin and throat white. (Adult males.)

b. White gular area extending farther backward laterally than medially, the feathers much elongated (forming a conspicuous ruff when erected); under parts of body glossy blue-black like upper surface. (*Corapipo leucorrhoa.*)

c. Fifth and sixth primaries longest, the seventh, eighth, and ninth, each successively, from 3 to 5 mm. shorter than the preceding, the tenth (outermost) "reduced to a small, narrow, lanceolate feather not more than 15 mm. in length."[a] (Colombia.)

Corapipo leucorrhoa leucorrhoa, adult male (extralimital)[b]

cc. Seventh primary longest, the fifth about 2 mm. shorter, the eighth about 1 mm. shorter than fifth, the ninth 2 mm. shorter than eighth, the tenth (outermost) 12–14 mm. shorter than ninth and not conspicuously narrowed nor lanceolate. (Panama to Nicaragua.) **Corapipo leucorrhoa altera**, adult male (p. 755)

bb. White gular area extending much farther backward medially than laterally (ending in a point on lower foreneck), the feathers not noticeably elongated; under parts of body velvety black. (Cayenne and British Guiana.)

Corapipo gutturalis, adult male (extralimital)[c]

aa. Above plain olive-green, beneath similar but paler, becoming yellowish on abdomen and sometimes grayish or white on throat. (Adult females and young.)

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[a] Hellmayr, Bull. Brit. Orn. Club, xvi, 1906, 85.

[b] *Pipra leucorrhoa* Sclater, Proc. Zool. Soc. Lond., 1863, 63, pl. 10 (Bogota, Colombia; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 301, part.—*C[orapipo] l[eucorrhoa] leucorrhoa* Hellmayr, Bull. Brit. Orn. Club, xvi, no. cxxiv, May 8, 1906, 84, 85, in text.

[c] [*Pipra*] *gutturalis* Linnæus, Syst. Nat., ed. 12, i, 1766, 340 (based on *Manacus gutture albo* Brisson, Orn., iv, 444, pl. 36, fig. 1); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 301.—*C[oropipo] gutturalis* Cabanis and Heine, Mus. Hein., ii, 1859, 94.—*P[ipra] perspicillata* Wagler, Isis, 1830, 935 (locality not given; coll. Paris Mus.).

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CORAPIPO LEUCORRHOA ALTERA Hellmayr.

COSTA RICAN WHITE-THROATED MANAKIN.

Similar to *C. l. leucorrhoa*,[a] but wing-formula and size and shape of outermost primary quite different, the seventh primary being longest (instead of fifth and sixth), the tenth (outermost) more than 25 mm. (instead of not more than 15 mm.) long and neither pointed nor conspicuously narrowed.

Adult male.—Above uniform glossy blue-black or dark steel blue, the remiges and rectrices grayish black, edged (except primaries) with glossy blue-black or dark steel blue; chin, throat, malar region, lower portion of suborbital region, and narrow edging to bend of wing, pure white; rest of under parts uniform intense blue-black, more or less glossy; maxilla grayish black, with paler tomia, mandible more grayish; iris brown; legs and feet dusky horn color or blackish brown; length (skins), 87–100 (92); wing, 56.5–61 (59.5); tail, 28.5–32 (30.7); exposed culmen, 8.5–9.5 (8.8); tarsus, 15–17 (15.9); middle toe, 9–10 (9.4).[b]

Adult female.—Above plain olive-green; chin and throat varying from light grayish olive-green to nearly pure gray; chest, sides, and flanks lighter olive-green than upper parts, fading into sulphur yellow or pale olive-greenish yellow on abdomen and under tail-coverts; axillars and under wing-coverts pale gray tinged with pale yellowish olive-green; inner webs of remiges deep brownish gray, paler on edges; bill, iris, and feet as in adult male; length (skins), 87–96 (93); wing, 55–61 (57.5); tail, 27–31 (29.4); exposed culmen, 8.5–10 (9.2); tarsus, 15–16.5 (15.8); middle toe, 9–10 (9.4).[a]

Young male.—At first similar to adult females, but when older the white throat-area (which starts laterally) is developed before the black begins to appear.

Panama (Chitra; Calovevora; Santa Fé de Veragua; Divala; Volcan de Chiriqui, 5,000 feet; Boquete, 4,000 feet; Bugaba; Laguna de Castillo), Costa Rica (Angostura; Turrialba; Tucurriqui; Cervantes; Naranjo; Carrillo; Guapiles; Guaitil; Barranca; Bonilla; La Candelaria; Jiménez; Buena Vista; La Concepcion), and eastern Nicaragua (Chontales).

[a] See p. 754.

[b] Ten specimens from Costa Rica.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Costa Rica	59.5	30.7	8.8	15.9	9.4
Three adult males from Panama	60.3	30.8	8.7	16	9.2

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Pipra leucorrhoa (not of Sclater, 1863) SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Santa Fé de Veragua; Tucurriqui, Costa Rica; descr. female); 1870, 200 (Volcan de Chiriqui, Bugaba, Laguna de Castillo, and Calovevora, Panama); Ibis, 1872, 313, 318 (Chontales, Nicaragua).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (Cervantes, Angostura, and Guaitil, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 66 (Naranjo and Cervantes, Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 301, part (Chontales, Nicaragua; Angostura and Tucurriqui, Costa Rica; Santa Fé de Veragua, Calovevora, Chitra, Bugaba, and Volcan de Chiriqui, Veragua, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 111, part (Chontales; Guaitil, Angostura, etc., Costa Rica; Laguna de Castillo, Boquete de Chitra, etc., Panama).—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 536 (Costa Rica; descr. female and young male).—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).—BANGS, Auk, xviii, 1901, 364 (Divala, Panama); Proc. New Engl. Zool. Club, iii, 1902, 40 (Boquete and Volcan de Chiriqui, 4,000 to 5,000 ft.).

[*Pipra*] *leucorrhoa* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 54, part.—SHARPE Hand-list, iii, 1901, 155, part.

Corapipo leucorrhoa altera HELLMAYR, Bull. Brit. Orn. Club, xvi, no. cxxiv, May 8, 1906, 84 (Carrillo, Costa Rica; coll. Tring. Mus.).

Genus SCOTOTHORUS Oberholser.

Heteropelma "Schiff" (not of Wesmaël, 1849) BONAPARTE, Consp. Voluc. Anisod., 1854, 4. (Type, *Muscicapa turdina* Maximilian).

Scotothorus[a] OBERHOLSER, Proc. Acad. Nat. Sci. Phila., June 2, 1899, 208. (New name for *Heteropelma* Bonaparte, preoccupied.)

Large Pipridæ (wing about 75–95 mm.) of very plain dull brown, olive, or olive-green coloration (the sexes alike).

Bill about half as long as head, or less, rather compressed (its depth at nostrils slightly exceeding its width at same point and equal to much more than half the distance from nostril to tip of maxilla); culmen rather sharply ridged, gradually but slightly curved from near base, more strongly so terminally, the tip of maxilla distinctly but not abruptly uncinate; gonys longer than mandibular rami, faintly convex, ascending terminally; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed (though posteriorly in contact, or very nearly so, with feathering of latero-frontal antiæ), rather large, longitudinally oval or broadly elliptical. Rictal bristles distinct, slightly recurved, the feathers of chin and latero-frontal antiæ also with distinct bristle-like points. Wing moderate or rather short, with longest primaries exceeding secondaries by not more than length of exposed culmen; seventh and eighth primaries longest, the sixth and ninth shorter and nearly equal, the tenth intermediate between fourth and fifth. Tail more than two-thirds as long as wing, but much shorter than distance from bend to end of secondaries, even, the rectrices moderately broad, rather loose-webbed, with broad but subacuminate tip. Tarsus longer than commissure, its

[a] From σχότος, *darkness* and θορεῖν, *to leap*.

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scutellation typically exaspidean; middle toe, with claw, about as long as tarsus, its second, as well as first, phalanx adherent to outer toe, the whole of the first phalanx united to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner decidedly shorter; hallux (without claw) slightly shorter than inner toe, not conspicuously stouter, its basal pad (tylarus) neither expanded nor flattened.

Plumage and coloration.—Contour feathers broad and blended, rather loosely webbed, the head normally feathered; both sexes plain olive-brown, olive, or olive greenish, paler below.

Nidification.— (Unknown ?)

Range.—Southern Mexico to southeastern Brazil and Peru. (About seven species and subspecies.)

I have removed from this genus the several South American species having a yellow or orange crown-patch and otherwise different in coloration, on account of decided structural differences. So far as I am able to see these belong to the genus *Neopelma*, with the type of which (*N. aurifrons*) I have carefully compared them. (See "Key" on p. 727.)

KEY TO THE SPECIES AND SUBSPECIES OF SCOTOTHORUS.

a. Upper parts not olive-green.

b. Throat and chest distinctly different in color from under parts of body.

c. Larger (wing more than 95, tail more than 75 mm.) (Southeastern Brazil.)

Scotothorus turdinus (extralimital)[a]

cc. Smaller (wing less than 95, tail less than 75).

d. Under parts of body pale olive or grayish olive, in strong contrast with cinnamon-brown of chest and throat; back, etc., brown or olive-brown, the crown more rufescent. (*Scothothorus amazonus.*)

e. More olive-brown above, the russet-brown crown in stronger contrast; chest less deeply and less extensively cinnamon-brown. (Upper Amazon Valley; central Colombia?) **Scotothorus amazonus amazonus** (extralimital)[b]

ee. More russet or cinnamon-brown above, the more rufescent brown of crown less strongly contrasted; chest more deeply and extensively cinnamon-brown. (Venezuela to eastern Panama.)

Scotothorus amazonus stenorhynchus (p. 762)

dd. Under parts of body deeper, more yellowish or greenish, olive, in slight contrast with browner olive or olive-brown of chest and throat; back, etc., olive or greenish olive, the crown not more rufescent. (*Scotothorus veræpacis.*)

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[a] ***Muscicapa turdina*** Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 817 (Province of Bahia, s. e. Brazil; type now in coll. Am. Mus. N. H.).—*Heteropelma turdinum* Sclater, Proc. Zool. Soc. Lond., 1860, 467; Cat. Birds Brit. Mus., xiv, 1888, 319.—*Scotothorus turdinus* Oberholser, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 209.—***Muscicapa rufo-olivacea*** Lafresnaye, Mag. de Zool., ann. 3, 1833, text, cl. ii, pl. 12–14 (locality not given).—*Ptil*[*ochloris*] *rufo-olivaceus* Lafresnaye, Rev. Zool., 1838, 238.—*H*[*eteropelma*] *rufo-olivaceum* Cabanis and Heine, Mus. Hein., ii, 1859, 100.

[b] ***Heteropelma amazonum*** Sclater, Proc. Zool. Soc. Lond., 1860, 466 (Chamicuros, e. Peru; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 320.—*Scotothorus amazonus* Oberholser, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 209.

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e. More brownish olive above; throat and chest more brownish olive, in stronger contrast with paler and more yellowish olive of other under parts. (Southern Mexico to northwestern and central Honduras.)

Scotothorus veræ-pacis veræ-pacis (p. 758)

ee. More greenish olive above; throat and chest less brownish olive, less strongly contrasted with darker and less yellowish olive of other under parts. (Coast of British Honduras to Panama.)

Scotothorus veræ-pacis dumicola (p. 759)

bb. Throat and chest not distinctly different in color from under parts of body or else the former paler and more yellowish.

c. Above olive or brownish olive, beneath deep olive or light grayish olive.

d. Above medium olive; beneath light grayish olive, deeper and browner on chest and lower throat; bill smaller, tail relatively much shorter (exposed culmen 12, wing 90, tail 63 mm.). (British Guiana to lower Amazon Valley.) ..... **Scotothorus wallacii** (extralimital)[a]

dd. Above dark olive or sepia; beneath nearly uniform deep olive, the chest and lower throat slightly darker but not browner; bill larger, tail relatively longer (exposed culmen 16, wing 89.5, tail 66.5). (Panama.)

Scotothorus furvus (p. 761)

cc. Above greenish olive, beneath lighter greenish olive.

d. Much darker throughout; wing, tail, and tarsus decidedly shorter (wing 82.5, tail 59, tarsus 21). (Northern Ecuador.)

Scotothorus rosenbergi (extralimital)[b]

dd. Much lighter throughout; wing, tail, and tarsus decidedly longer (wing 88, tail 62, tarsus 22). (Venezuela.).... **Scotothorus olivaceus** (extralimital)[c]

aa. Upper parts (except wings and tail) uniform olive-green. (Southeastern Brazil.)

Scotothorus unicolor (extralimital)[d]

SCOTOTHORUS VERÆ-PACIS VERÆ-PACIS (Sclater).

BROWN MANAKIN.

Adults (*sexes alike*).—Above (including sides of head and neck) plain bright bister or sepia brown or russet-olive, slightly darker on pileum, slightly paler and more olivaceous on rump; wings and tail

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[a] *Heteropelma wallacii* Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 579 (Pará Brazil; coll. P. L. Sclater); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 319, pl. 20.—*Scotothorus wallacii* Oberholser, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 209.

[b] *Heteropelma amazonum* (not of Sclater, 1860) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 320, part (Balzar Mts., w. Ecuador).—*Heteropelma rosenbergi* Hartert, Novit. Zool., v, Dec., 1898, 489 (Cachavi, n. w. Ecuador; coll. Tring Mus.); Salvadori and Festa, Boll. Mus. Zool. Torino, xv, no. 362, 1899, 15 (Foreste del Rio Peripa, n. w. Ecuador).—[*Scotothorus*] *rosenbergi* Sharpe, Hand-list, iii, 1901, 159.

[c] (??) *Scotothorus wallacei* (not *Heteropelma wallacii* Sclater and Salvin??) Berlepsch and Hartert, Novit. Zool., ix, Apr., 1902, 54 (Nicare and La Pricion, Caura River, Venezuela; crit.).—*Scotothorus olivaceus* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 118 (Rio Mato, Venezuela; coll. Am. Mus. N. H.).

[d] *Muscicapa virescens* (not of Temminck, 1824) Maximilian, Beitr. Naturg. Bras., iii, pt. 2, 1831, 802 (Arrayal da Conquista, int. Province of Bahia, s. e. Brazil; type now in Am. Mus. N. H.).—*Ptil*[*ochloris*] *virescens* Lafresnaye, Rev. Zool., 1838, 238.—*Heteropelma virescens* Sclater, Proc. Zool. Soc. Lond., 1860, 467; Cat. Birds Brit. Mus., xiv, 1888, 321.—[*Heteropelma*] *unicolor* Bonaparte, Consp. Volue. Anisod., 1854, 4 (new name for *Muscicapa virescens* Maximilian, preoccupied).—*Scotothorus unicolor* Oberholser, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 209.—*Pipra morenoana* Bertoni, Av. Nuev. Parag., 1901, 104 (Paraguay; see Ihering, Rev. Mus. Paul., vi, 1904, 326).

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more russet-brown, inclining to mars brown on greater wing-coverts and secondaries; chin, throat, and chest plain light bister brown, the first paler and more grayish; rest of under parts plain light, slightly greenish, olive, the abdomen tinged with light olive-yellow; axillars and under wing-coverts pale grayish olive, tinged or edged with pale olive-yellowish; inner webs of remiges grayish brown, indistinctly edged with paler; bill blackish brown or brownish black, the mandible paler basally; legs and feet deep horn brownish, the toes usually darker.[a]

Adult male.—Length (skins), 156; wing, 88–89.5 (88.7); tail, 65–68 (66.5); exposed culmen, 13.5–14.5 (14); tarsus, 20.5–21 (20.7); middle toe, 13.5–14 (13.7).[b]

Adult female.—Length (skins), 152–161 (156); wing, 87–88 (87.5); tail, 65–66.5 (65.7); exposed culmen, 15.5; tarsus, 21.5; middle toe, 14–15 (14.5).[c]

Southeastern Mexico, in State of Vera Cruz (Playa Vicente), Guatemala (Choctum; Yzabal) and western and central Honduras (San Pedro; San Pedro Sula; Chamelicon; Santa Ana; Chaloma).

Heteropelma veræ-pacis SCLATER and SALVIN, Proc. Zool. Soc Lond., 1860, 300 (Choctum, Vera Paz, Guatemala; coll. Salvin and Godman); 1861, 467 (Guatemala); 1870, 837 (San Pedro, Honduras).—SALVIN and SCLATER, Ibis, 1860, 400 (Choctum).—SCLATER, Proc. Zool. Soc. Lond., 1860, 467 (Guatemala); 1862, 19 (Playa Vicente, Vera Cruz); Cat. Am. Birds, 1862, 245 (Vera Paz); Cat. Birds Brit. Mus., xiv, 1888, 320, part (Choctum and Yzabal, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves., ii, 1889, 116, part (Playa Vicente, Vera Cruz; Choctum and Yzabal, Guatemala; San Pedro, Honduras).

[*Heteropelma*] *veræpacis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55, part.

Heterpelma veræpacis LANTZ, Trans. Kans. Ac. Sci. for 1896–97 (1899), 221 (Chaloma, n. w. Honduras).

[*Laniisoma*] *veræ-pacis* GRAY, Hand-list, i, 1869, 373, no. 5661.

Scotothorus veræ-pacis OBERHOLSER, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 209.

[*Scotothorus*] *veræ-pacis* SHARPE, Hand-list, iii, 1901, 159, part.

SCOTOTHORUS VERÆ-PACIS DUMICOLA Bangs.

OLIVE MANAKIN.

Similar to *S. v. veræ-pacis*, but color of upper parts decidedly more olivaceous (slightly brownish olive to clear olive, the crown usually very slightly more brownish), wings and tail less rufescent (more olive-brownish), and under parts slightly darker, with color of chest and throat much less brownish (more olive); wing averaging longer, tail shorter.

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[a] In *S. v. dumicola* the iris is noted by Carriker (on label) as brown; bill black, with edge and base of mandible horn color; feet bluish slate. According to M. E. Peck (on labels) the feet are leaden blue or horn brown.

[b] Two specimens—one from San Pedro Sula, Honduras, the other said to be from "Mexico."

[c] Two specimens from Honduras (Chamelicon and Santa Ana).

There are no specimens with sex determined in the series examined from Guatemala.

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Adult male.—Length (skins), 147–163 (155); wing, 86.5–93 (90.5); tail, 62–71.5 (65.9); exposed culmen, 12–15.5 (14.8); tarsus, 20.5–22.5 (21.7); middle toe, 13.5–15 (14.1).[a]

Adult female.—Length (skins), 150–163 (157); wing, 85–92 (88.9); tail, 57.5–68.5 (62.8); exposed culmen, 15–16 (15.3); tarsus, 21–22.5 (21.6); middle toe, 13.5–15 (14.3).[b]

Coast of British Honduras (forest near Manatee Lagoon;[c] Orange Walk[d]), northeastern Honduras (Yaruca),[c] Costa Rica (Angostura; Cérvantes; Valza; Turrialba; Guapiles; Carrillo; Cariblanco de Sarapiqué; Jiménez; Pozo Azul de Pirris; Volcan de Miravalles[d]), and Panama (Divala; Cascajal-Coclé; Volcan de Chiriqui;[d] Bugaba;[d] Castillo?[d]).

[a] Eleven specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male (*S. v. veræ-pacis*) from "Mexicoo"	89.5	68	13.5	20.5	13.5
One adult male (*S. v. veræ-pacis*) from Honduras (San Pedro Sula)	88	65	14.5	21	14
Nine adult males (*S. v. dumicola*) from Costa Rica	90.4	65.4	14.9	21.6	14.2
Two adult males (*S. v. dumicola*) from Panama (Divala and Cascajal-Coclé)	91	67.5	14.7	21.7	14
One adult male (*S. furvus*) from Panama (Boquete de Chitra)	89.5	66.5	16	22	14.5
FEMALES.					
Two adult females (*S. v. veræ-pacis*) from Honduras (Chamelicon and Santa Ana)	87.5	65.7	15.5	21.5	14.5
Three adult females (*S. v. dumicola*) from British Honduras (Manatee Lagoon)	87.8	64.5	15.3	21.3	14.5
One adult female (*S. v. dumicola*) from Honduras (Yaruca)	87.5	65.7	15.5	21.5	14.5
Four adult females (*S. v. dumicola*) from Costa Rica	88.2	61.4	15.5	21.8	14
Two adult females (*S. v. dumicola*) from Panama (Divala and Cascajal-Coclé)	90.5	62.5	15.2	22.2	14.5

[c] Three adult females from Manatee Lagoon, British Honduras, and one from Yaruca, Honduras, are decidedly referable to this southern form, if a subdivision of the species is to be made. I have had the advantage of a much larger series of the southern form than that examined by Mr. Bangs, and find that by restricting true *S. veræ-pacis* to birds from southern Mexico, Guatemala, and western and central Honduras specimens from all other localities stand out clearly by the characters given in the above diagnosis, and none of them more strongly than the birds from Manatee Lagoon! I am unable to account for this distribution unless on the hypothesis that *S. v. dumicola* follows the coast or coast-slope of Honduras only and thus reaches the coast of British Honduras. Birds from Chamelicon and San Pedro, which are near the coast in northwestern Honduras, are partly undistinguishable from Guatemalan examples, and therefore are true *S. veræ-pacis* and partly intermediate, though rather nearer to the northern form. Unless a subdivision of the species is made as indicated, I do not see how *S. v. dumicola* can be maintained as a vaild form, since otherwise there are neither color-characters nor differences of proportions on which to base it.

[d] I have not seen specimens from these localities and therefore can not be sure that I have allocated the records correctly.

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Heteropelma veræ-pacis (not of Sclater and Salvin) LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (Angostura and Cervantes, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 320, part (Valza and Angostura, Costa Rica; Volcan de Chiriqui, and Bugaba, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 116, part (Orange Walk, British Honduras; Valza, Angostura, and Cervantes, Costa Rica; Volcan de Chiriqui, Bugaba, Chiriqui, and Castillo, Panama).—UNDERWOOD, Ibis., 1896, 439 (Volcan de Miravalles, Costa Rica).

Heteropelma veræpacis SALVIN, Proc. Zool. Soc. Lond., 1870, 200, part (Castillo, Bugaba, and Volan de Chiriqui, Panama; crit.).

[*Heteropelma*] *veræpacis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55, part.

Scotothorus veræpacis BANGS, Auk, xviii, Oct., 1901, 365 (Divala, Panama).

[*Scotothorus*] *veræ-pacis* SHARPE, Hand-list, iii, 1901, 159, part.

Scotothorus veraepacis veraepacis BANGS, Bull. Mus. Comp. Zool., xxxix, no. 6, July, 1903, 149 (Yaruca, Honduras).

Scotothorus veræpacis dumicola BANGS, Proc. New Engl. Zool. Club, iii, Feb. 6, 1903, 103 (Divala, Chiriqui, Panama; coll. E. A. and O. Bangs).

SCOTOTHORUS FURVUS Ridgway.

SWARTHY MANAKIN.

Most like *S. rosenbergi* (Hartert),[a] of northern Ecuador, but larger, with relatively much larger bill and longer tail, color of upper parts deep olive-brown instead of greenish olive, and under parts browner olive; much darker and browner above and color of under parts darker, browner, and more uniform than *S. veræ-pacis dumicola*.

Adult male.—Above plain deep sepia brown, slightly darker and more rufescent (between sepia and mummy brown) on crown, slightly lighter and more olivaceous on rump; wings and tail deep warm-sepia brown, brightening into prouts brown on secondaries and greater wing-coverts; under parts plain deep olive, deepest on chest, paler on chin, the under tail-coverts decidedly paler and edged with light gray; axillars and under wing-coverts light olive, edged with pale gray, the latter indistinctly mottled or barred terminally with pale grayish and dusky; inner webs of remiges deep grayish brown, indistinctly edged with paler; bill brownish black, paler on tomia and basal portion of mandible; legs and feet dusky horn brownish (in dried skin); length (skin), 160; wing, 89.5; tail, 66.5; exposed culmen, 16; tarsus, 22; middle toe, 14.5.[b]

Pacific slope of western Panama (Boquete de Chitra; Chitra;[c] Calovevora? [a]).

(?) *Heteropelma veræpacis* (not of Sclater and Salvin, 1860) SALVIN, Proc. Zool. Soc. Lond., 1870, 200, part (Calovevora, Veragua, Panama).

[*Heteropelma*] *veræpacis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55, part.

[a] See p. 758.

[b] One specimen (the type).

[c] I have not seen a specimen from either Chitra or Calovevora; but since Salvin and Godman (Biol. Centr.-Am., Aves, ii, 116) refer to specimens from these two localities as "darker than typical examples from Vera Paz" I have little doubt that they belong here.

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(?) *Heteropelma veræ-pacis* SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 320, part (Calovevora, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 116, part (Calovevora).

Heteropelma veræ-pacis SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 116, part (Chitra, Veragua, Panama).

Scotothorus furvus RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 118 (Boquete de Chitra, Veragua, Panama; coll. U. S. Nat. Mus.).

SCOTOTHORUS AMAZONUS STENORHYNCHUS (Sclater and Salvin).

RUSSET MANAKIN.

Similar to *S. a. amazonus*,[a] but with crown less distinctly rufescent and chest much more distinctly fulvescent; similar in coloration of upper parts to *S. turdinum*,[a] but color of under parts slightly paler, with chest more distinctly fulvescent, and size much smaller; otherwise most like *S. veræ-pacis veræ-pacis*, but general coloration much browner (without olive tinge above) and under parts of body pale grayish, in conspicuous contrast with cinnamon-brown or wood-brown of chest and throat.

Adults (*sexes alike*).—Above plain light bister brown, the pileum more rufescent (cinnamon-brown or vandyke), the rump and upper tail-coverts slightly paler and more olivaceous; wings and tail warm-sepia brown, the wing-coverts and remiges with outer webs more rufescent (russet-brown or vandyke), especially toward edge; throat and chest plain cinnamon-brown, deep wood-brown, or grayish cinnamon, becoming paler on chin; rest of under parts plain pale olive or light grayish olive, usually more or less tinged with yellowish, paler and more yellowish on abdomen, where usually narrowly and very faintly barred with darker, the thighs more brownish; axillars and under wing-coverts pale yellowish olive, narrowly and indistinctly barred with paler; inner webs of remiges grayish brown, passing into pale buffy brown or pale cinnamon on edges; bill brownish black or dusky horn color, paler on tomia and basal half (more or less) of mandible; legs and feet dusky horn color (in dried skins) becoming paler on upper portion of tarsus.

Young.—Above plain russet-brown or vandyke, the pileum and hindneck much paler (between cinnamon and russet); under parts plain cinnamon-brown, paler on throat and sides of head, paler and more grayish posteriorly, the under tail-coverts mostly grayish white; remiges and rectrices as in adults.[b]

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[a] See p. 757.

[b] Described from no. 71,182, coll. Am. Mus. Nat. Hist., Bonda, Santa Marta, Colombia, May 8, 1898; Mrs. H. H. Smith. This specimen (also described by Dr. J. A. Allen in Bull. Am. Mus. N. H., xiii, 1900, 155) is the only example of the first plumage in this genus that I have seen. As stated by Doctor Allen, the plumage of the under parts is "peculiarly soft and wooly," as is that of the pileum and hindneck also (though to a less degree), in this respect recalling to mind the young of the Vireonidæ.

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Adult male.—Length (skins), 156–163 (159); wing, 92.5–93.5 (93); tail, 68.5; exposed culmen, 14; tarsus, 21.5; middle toe, 15.5.[a]

Adult female.—Length (skins), 159–175 (165); wing, 88.5–92 (90); tail, 61–63 (61.9); exposed culmen, 14.5–17 (15.6); tarsus, 21–22 (21.4); middle toe, 15–15.5 (15.2).[b]

Middle Panama (Frijole Station; Panama City) and eastward through northern Colombia (Bonda, Onaca, and Cacagualito) to western Venezuela (San Esteban).

Heteropelma stenorhynchum SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868 (pub. Apr. 1, 1869), 628, 632 (San Esteban, Venezuela; coll. P. L. Sclater and coll. Salvin and Godman).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 320.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 116 (Panama; Venezuela).

[*Heteropelma*] *stenorhynchum* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 55.

Scotothorus stenorhynchus OBERHOLSER, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 209.

[*Scotothorus*] *stenorhynchus* SHARPE, Hand-list, iii, 1901, 159.

[*Laniisoma*] *stenorhynchum* GRAY, Hand-list, i, 1869, 373, no. 5666.

Heteropelma verapacis (not *H. veræ-pacis* Sclater and Salvin) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473 (Panama).

Heteropelma veræ-pacis SALVIN, Proc. Zool. Soc. Lond., 1883, 424 (Panama).

Heteropelma veræpacis ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 155 (Bonda and Cacagualito, Santa Marta, Colombia; descr. young).

[*Scotothorus*] *veræ-pacis* SHARPE, Hand-list, iii, 1901, 159, part (Santa Marta, Colombia).

Genus LANIOCERA Lesson.

Laniocera LESSON, Rev. Zool., 1840, 353. (Type, *L. sanguinaria* Lesson, = *Ampelis hypopyrrha* Vieillot.)

Aulea "Schiff," BONAPARTE, Consp. Voluc. Anisod., 1854, 4. (Type, *Ampelis hypopyrrha* Vieillot.)

Aulia (emendation) CABANIS and HEINE, Mus. Hein., ii, 1859, 101.

Large Pipridæ (wing about 100–115 mm.) closely resembling, superficially, the Cotingine genera *Lathria* and *Lipaugus*, but having the exaspidean tarsal envelope and extensively coherent toes of typical Pipridæ.

Bill about half as long as head, or less, rather broad but not depressed basally, its depth at nostrils slightly greater than its width at same point; culmen distinctly and rather sharply ridged, nearly straight basally, gradually decurved terminally, the tip of maxilla distinctly but not conspicuously uncinate; gonys longer than mandibular rami, slightly convex, rather strongly ascending terminally; maxillary tomium nearly straight, distinctly notched subterminally. Nostril partly concealed by bristly antrorse latero-frontal plumules,

[a] Two specimens, from Panama.

[b] Four specimens (two from Panama, two from Colombia). Six additional adults examined (from Colombia) are of unknown sex.

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longitudinal, narrowly oval or elliptical, overhung by narrow membrane. Rictal bristles well developed, the feathers of chin and laterofrontal antiæ with long bristly points. Wing moderate, with longest primaries exceeding secondaries by length of commissure, or more; seventh, eighth, and ninth primaries longest, the tenth shorter than fifth. Tail about as long as wing to end of secondaries, even or slightly rounded, the rectrices of moderate width, with rounded tip. Tarsus about as long as commissure (*L. rufescens*) or decidedly shorter (*L. hypopyrrha*), its scutellation typically exaspidean; middle toe, with claw, about as long as tarsus, its first and second phalanges wholly adherent to outer toe, the first mostly united to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner decidedly shorter; hallux slender, about as long as inner toe, its basal pad (tylarus) neither expanded nor notably flattened.

Plumage and coloration.—Contour feathers broad and blended, those of the pileum not elongated; above brownish gray or dull cinnamon-rufous, the middle and greater wing-coverts with a large terminal roundish or fan-shaped spot of tawny or cinnamon-buff, sometimes margined with dusky; beneath pale gray or cinnamon-rufous, more or less barred or spotted (sometimes indistinctly); a yellowish spot on side of breast, involving proximal axillars.

Nidification.—(Unknown?)

Range.—Guatemala to southern Brazil and eastern Ecuador. (Two species.)

KEY TO THE SPECIES OF LANIOCERA.

a. General color gray; innermost lesser wing-coverts lemon yellow. (Southeastern Brazil to Guiana and eastern Ecuador.).....**Laniocera hypopyrrha** (extralimital)[a]

aa. General color cinnamon-rufous or tawny-ochraceous; innermost lesser wing-coverts cinnamon-rufous. (Guatemala to northwestern Ecuador.)

Laniocera rufescens (p. 765)

[a] *Ampelis hypopyrrha* Vieillot, Nouv. Dict. d'Hist. Nat., viii, 1817, 164 (Guiana).—*Lipaugus hypopyrrhus* Hartlaub, Rev. Zool., 1846, 3.—*Ptilochloris hypopyrrhus* Lafresnaye, Rev. Zool., 1846, 43, 239.—*Laniocera hypopyrrha* Hartlaub, Rev. Zool., 1846, 112.—*A[ulia] hypopyrrha* Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 101; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 354.—*Muscipeta sibilatrix* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 810 (Capitao Filisberto, Brazil; type now in Coll. Am. Mus. N. H.).—*Lipaugus sibilatrix* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 422.—*Laniocera sanguinaria* Lesson, Rev. Zool., 1840, 353 (=young).—*Lipangus lateralis* Gray, in Gray and Mitchell, Gen. Birds, i, 1847, pl. 60 (name on plate).—*[Aulia] lateralis* Sclater and Salvin, Nom. Av. Neotr., 1873, 57.

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LANIOCERA RUFESCENS (Sclater).

RUFOUS MANAKIN.

Adult male.—Above plain dull cinnamon-rufous or hazel, darker (nearly burnt umber) on crown, the feathers of occiput tipped with duller brown, the back and scapulars (especially lower portion of former) indistinctly intermixed with somewhat grayish brown, the rump and upper tail-coverts narrowly and very indistinctly barred with brown; lesser wing-coverts uniform bright cinnamon-rufous; middle coverts and posterior row of lesser coverts brown (deep broccoli brown or between mummy and light bister), each with a very large terminal broadly triangular spot of dull orange-rufous or dull light cinnamon-rufous; greater coverts broccoli brown narrowly edged with dull orange-rufous or dull light cinnamon-rufous and tipped with a large triangular spot of the same; primary coverts dull cinnamon-rufous or russet, passing into deep grayish brown on terminal portion; remiges between orange-rufous and russet, their inner webs deep grayish (broccoli) brown for terminal half (more or less), their shafts dusky brown; tail russet, the inner webs of rectrices passing into dull orange-rufous on edges; chin and upper throat uniform tawny-ochraceous passing into grayish tawny or cinnamon on lower throat; rest of under parts plain tawny-ochraceous, the chest (only) narrowly and very indistinctly barred with grayish brown; axillars and under wing-coverts light tawny-ochraceous, the inner webs of remiges (except terminally) similar but deeper and slightly more rufescent; on each side of breast, near axillars, a patch of lemon yellow, composed of rather elongated, loose-webbed feathers; bill deep horn brown, the basal half of mandible paler; legs and feet light horn brownish (in dried skins); length (skins), 192-208 (198); wing, 103.5–114 (109.3); tail, 81–90,5 (84); exposed culmen, 17–19 (18); tarsus, 20–22.5 (21.4); middle toe, 13–15 (14.2).[a]

Adult female.[b]—Similar in coloration to the adult male, but usually(?) with the yellow subaxillary patch replaced by one of orange-

[a] Five specimens, only one of them fully adult as to plumage.

[b] Judging from the specimens examined, leading authorities seem to be in error in supposing the sexes to differ materially in coloration and also in considering the specimens with a few black spots on under parts and black tips to the wing-coverts as the adult male. On the contrary, the latter are almost certainly *immature* birds. The black spots on the under parts are, in all the specimens I have seen, very few in number and scarcely alike in any two specimens as to position, which leads me to suspect that the feathers bearing these black spots are merely remnants of the first plumage.

A circumstance which I am not able to understand in connection with the coloration of this species (unless explainable as a slip of the pen) is that both Salvin and Godman (*Biologia Centrali-Americana, Aves*, ii, 130) and Hartert (*Novitates Zoologicæ*, ix, 610) mention yellow "*flank*-tufts." I have never seen a specimen of the species possessing any yellow on the *flanks*, and therefore suspect that the yellow subaxillary patch is meant.

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ochraceous;[a] length (skins), 185–200 (194); wing, 110–119(112.9); tail, 80.5–84.5 (82.3); exposed culmen, 16–18.5 (17.5); tarsus, 20.5–22.5 21.5); middle toe, 13.5–16 (15).[b]

Immature male and female.[c]—Similar in coloration to adults, but color of upper parts duller and less uniform (through admixture of light grayish brown or olive), the rump usually more distinctly barred; greater wing-coverts tipped with a bar of black (the middle or some of the posterior lesser coverts sometimes also black-tipped or margined;[d] under parts (which are sometimes much paler tawny-ochraceous than in the adults examined) usually more distinctly and more extensively barred, and sometimes with a few scattered roundish spots of black,[d] usually on breast, but sometimes on abdomen also; subaxillary space usually orange-ochraceous instead of yellow.[c]

Guatemala (Coban, Vera Paz) and southward through Honduras (Segovia River), Nicaragua (Rio Escondido), Costa Rica (Tucurriqui; Barranca; Sipurio, Talamanca; Bonilla; Cariblanco de Sarapiqué; Volcan de Miravalles), and Panama (Panama City; Lion Hill; Chepo; Santa Fé de Veragua; El Real, Darien) to north-central Colombia (Remedios, Antioquia); northwestern Ecuador (Bulún)?

Lipaugus rufescens SCLATER, Proc. Zool. Soc. Lond., 1857 (pub. Jan. 28, 1858), 276 (Coban, Vera Paz, Guatemala; coll. Brit. Mus.); 1861, 211 (Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 355 (Santa Fé de Veragua, Panama, and Chepo, Panama; Remedios, Province Antioquia, Colombia).—SCLATER and SALVIN, Ibis, 1859, 124 (Coban, Guatemala); 1860, 400 (Coban); Proc. Zool. Soc.

[a] Of the two adult females examined one has this patch yellow, as in the male, the other orange-ochraceous. I am therefore unable to determine which is the more usual color.

[b] Five specimens, three of them in immature plumage.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One immature male from southern Honduras (Segovia River)	111.5	90.5	17.5	21	14
One adult male from Costa Rica	114	82	17.5	22	14.5
Three males (two adult, one immature) from Panama	107.7	82.7	18.3	21.3	14.2
FEMALES.					
Three females (two adult, one immature) from Costa Rica	114.3	82.3	17	21.8	15.5
Two immature females from Panama	112.9	82.3	17.5	21.5	15

The series examined is much too small to enable me to determine whether there are any constant geographic differences in coloration or measurements.

[c] Of two young males, one (from Segovia River, southern Honduras) has the subaxillary patch large and bright lemon yellow, the other (from Loma del Leon, Panama) has it orange-ochraceous with a very slight tinge or admixture of yellow near outer edge; the three young females examined, on the other hand, all have this space orange-ochraceous, though one of them (from Panama) shows a slight admixture of yellow.

[d] These feathers I take to be remnants of the first plumage.

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Lond., 1864, 361 (Panama; crit.); Exotic Orn., pt. i, 1866, 5, 6, pl. 3.—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 330 (Lion Hill); ix, 1868, 116 (Barranca and Tucurriqui, Costa Rica).—SALVIN, Ibis, 1866, 203 (Guatemala); Proc. Zool. Soc. Lond., 1867, 149 (Santa Fé de Veragua, Panama).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).

[*Lipangus*] *rufescens* GRAY, Hand-list, i, 1869, 372, no. 5649.

A[*ulia*] *rufescens* CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 101, footnote (Guatemala).

[*Aulia*] *rufescens* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 57.—SHARPE, Hand-list, iii, 1901, 167.

Aulia rufescens SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 519 (Remedios, Antioquia, Colombia).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 130.—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).

Laniocerca rufescens RIDGWAY, Proc. U. S. Nat. Mus., x, sig. 37, Aug. 6, 1888, 589 (Segovia R., Honduras; crit.).

Laniocera rufescens RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 508 (Rio Escondido, Nicaragua; crit.).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 13 (Loma del Leon, Panama).

(?)*Aulia tertia* HARTERT, Novit. Zool., ix, Dec., 1902, 609 (Bulún, n. w. Ecuador; coll. Tring Mus.).[a]

(?)*Aulia rufescens tertia* HARTERT, Bull. Brit. Orn. Club, xvi, no. cxviii, Nov. 1, 1905, 13, in text.

Genus PIPRITES Cabanis.

Piprites CABANIS, Weigman's Archiv., xiii, pt. i, 1847, 234. (Type, *Pipra pileata* Temminck.)

Hemipipo CABANIS, Weigman's Archiv., xiii, pt. i, 1847, 234. (Type, *Pipra chloris* Cabanis.)

Medium-sized Pipridæ (wing about 62–75 mm.) having the second phalanx of middle toe wholly free from outer toe.

Bill small,[b] less than half as long as head, its depth at nostrils greater than its width at same point, and equal to much more than half the distance from nostril to tip of maxilla; culmen nearly straight basally, then gradually and decidedly curved, the tip of maxilla distinctly uncinate; gonys longer than mandibular rami, slightly but decidedly convex; maxillary tomium straight or slightly concave, distinctly notched subterminally. Nostril mostly covered by antrorse and decumbent bristly nasal plumules, rather large, roundish or broadly oval, with narrow superior membrane. Rictal bristles well developed, and bristly tips of antrorse latero-frontal and mental plumules equally large. Wing moderate, with longest primaries exceeding secondaries by about length of tarsus to nearly as long as the latter; eighth and seventh primaries longest, the ninth and sixth

[a] I consider this to be probably the same as *L. rufescens* for the reason that every one of the color characters ascribed to it applies perfectly to the adult of the latter, which, apparently, was unknown to the describer of *A. tertia*.

[b] In form and relative size the bill of this genus is remarkably similar to that of certain species of the genus *Vireo* (*V. huttoni*, *V. carmioli*, etc.), and the coloration is also decidedly "vireonine."

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successively shorter, the tenth longer than fifth. Tail slightly shorter than wing to end of secondaries, much rounded (its graduation equal to or more than length of exposed culmen), the rectrices moderate in width, with rounded tip. Tarsus longer than commissure, slender, its scutellation typically exaspidean, but with acrotarsal scutella sometimes fused, or nearly so, on outer side; middle toe, with claw, shorter than tarsus, its second phalanx wholly free from outer toe, its first phalanx wholly united to inner toe; outer toe, without claw, reaching to beyond middle of subterminal phalanx of middle toe, the inner toe nearly as long; hallux, without claw, slightly shorter than inner, slender, its basal pad (tylarus) neither expanded nor flattened.

Plumage and coloration.—Contour plumage soft and blended; head normally feathered; coloration above olive-greenish, with or without gray on head or neck; wings dusky with olive-green or yellowish edgings, the tertials usually, and greater wing-coverts sometimes, with large terminal spots of pale yellow or yellowish white; beneath light olive-greenish or yellowish or pale gray, becoming yellowish on upper throat and under tail-coverts; sexes essentiallly alike in color.[a]

Nidification.—(Unknown?)

Range.—Costa Rica to Ecuador and southeastern Brazil. (Five species.)

PIPRITES GRISEICEPS Salvin.

GRAY-HEADED MANAKIN.

Adult male.—Pileum, hindneck, and sides of head (including loral, orbital, auricular, and malar regions) plain slate-gray, relieved by a conspicuous and continuous orbital ring of white; back, scapulars, rump, upper tail-coverts and lesser wing-coverts uniform bright olive-green; tail dull black, tipped with pale buffy grayish brown, the outer webs of rectrices edged with olive-green, or pale buffy olive, this increasing in extent toward outermost rectrix, on which it occupies, approximately, the terminal third, the basal portion being dusky grayish brown instead of blackish; wings (except lesser coverts) dull black or dusky, the middle coverts broadly tipped or terminally margined with olive-green, the outer webs of greater coverts mostly olive-green (edged terminally with yellowish), the remiges edged with olive-green, most broadly on secondaries, the innermost of which has the outer web wholly olive-green, the inner web wholly pale yel-

[a] The above characters are taken from the four species constituting the genus *Hemipipo* of Cabanis. The type of *Piprites* (*Pipra pileata* Temminck) is very different in coloration, the male being chestnut above with black pileum, wings dusky with greenish edgings, under parts fulvous, becoming yellowish on abdomen; the female is similar, except that the back is olivaceous instead of chestnut. According to Sclater (Cat. Birds Brit. Mus., xiv, 283) *Piprites pileatus* (which I have not seen) would appear to present certain structural differences, and I would not be surprised to find that it is generically separable from the group named *Hemipipo* by Cabanis.

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low or yellowish white, the next two with inner web broadly edged with yellowish white; chin pale gray or grayish white; throat sulphur yellow, tinged with gray anteriorly, with olive-green laterally; abdomen canary yellow, fading into sulphur yellow on under tail-coverts; rest of under parts light yellowish olive-green; axillars and under wing-coverts, and broad edgings to inner webs of remiges pale primrose yellow; a large dusky spot on the carpo-metacarpal region of under side of wing; maxilla blackish (dark plumbeous or blackish gray in life?), with paler tomium; mandible pale yellowish gray or light brown (pale bluish gray in life?); legs and feet pale horn color (in dried skins); length (skins), 102–116 (108); wing, 62.5–66 (64.2); tail, 42.5–44.5 (43.5); exposed culmen, 9.5; tarsus, 15–16 (15.5); middle toe, 10.5–11 (10.7).[a]

Adult female.—Similar to the male, but gray of occiput and hind-neck tinged with olive-green, sometimes wholly of the latter color; length (skin), 113; wing, 63; tail, 41; exposed culmen, 9.5; tarsus, 15.5; middle toe, 9.[b]

Costa Rica (Tucurriqui; Jiménez; Reventazon) and Nicaragua (San Carlos).

Piprites griseiceps SALVIN, Proc. Zool. Soc. Lond., 1864 (pub. Apr. 1, 1865), 583 (Tucurriqui, Costa Rica; coll. Salvin and Godman); Bull. Brit. Orn. Club, vi, 1893, p. xxxii (San Carlos, Nicaragua).—LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, 1868, 116 (Tucurriqui, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 285.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 107, pl. 41, fig. 3.

[*Piprites*] *griseiceps* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 53.—SHARPE, Hand-list, iii, 1901, 151.

[*Pipra*] *griseiceps* GRAY, Hand-list, i, 1869, 378, no. 5731.

Family COTINGIDÆ.

THE COTINGAS.

Haploophone,[c] catacromyodous,[d] heteromerous[e] Mesomyodian Passeres with the tarsal envelope pycnaspidean,[f] holaspidean[f] or modified taxaspidean[f] (never exaspidean[f]), first (basal) phalanx of middle toe never wholly united to inner toe, nor second phalanx

[a] Two specimens.

[b] One specimen.

[c] Having the syrinx simply broncho-tracheal (typically Passerine). See Garrod, Proc. Zool. Soc. Lond., 1876, 517, 518; Forbes, Proc. Zool. Soc. Lond., 1880, 389–391; 1882, 569–571.

[d] The vocal muscles inserted on the dorsal end of the bronchial semirings. See Gadow, Bronn's Thier-Reich, Vögel, ii, 1893.

[e] The main artery of the thigh is the femoral instead of the sciatic; in this respect agreeing with the Pipridæ, all other Mesomyodi (including *Rupicola*) having the sciatic artery developed instead of the femoral.

[f] For definitions of these different types of tarsal envelope see footnote on p. 328.

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of middle toe coherent with outer toe (or else, in genus *Phænicircus*[a] only, with inner side of tarsus feathered).

The range of variation in external features is so great in the group known as Cotingidæ that it is very difficult to discover external characters additional to those given above, which are common to all. Doctor Sclater[b] separates the family from the Tyrannidæ and Pipridæ by the alleged pycnaspidean tarsi; but, while the tarsal envelope is never exaspidean, as in the two groups mentioned, it is by no means always pycnaspidean, this type of structure being typically developed in less than half the genera, the majority having the tarsal envelope taxaspidean or modified holaspidean.[c]

Owing to lack of sufficient knowledge of the internal structure of the various genera, the limits of the family, as well as its relationship to allied groups, are at present uncertain, and those here assigned are merely tentative. If, however, the Pipridæ are to be recognized as a separate family, it becomes necessary to annex to the latter the genus *Laniocera* (usually considered a member of the Cotingidæ), on account of its typically exaspidean tarsi and Piprine foot-structure, to transfer from the Pipridæ to the Cotingidæ the genus *Laniisoma*, and to eliminate, as a separate group, the genus *Rupicola*. Whether *Phænicircus* should be left with the Cotingidæ, associated with *Rupicola*, or placed by itself, I am not able to determine. At the same time, after having defined the groups Cotingidæ and Tyrannidæ by the difference in their tarsal envelope (apparently the only available external character, while our knowledge of their internal structure is much too fragmentary to be of service in the matter), it becomes necessary to transfer from the latter to the former certain forms which certainly belong there unless other genera to which they are evidently related are wrongly placed in that group. These are the genera *Sirystes*, allied to *Lipaugus* and *Casiornis;* and three species removed from the Tyrannine genera, *Myiarchus*, *Elænia*, and

[a] *Phænicircus* is so different from the true Cotingidæ in its foot-structure that its proper allocation is doubtful. It may possibly be more nearly related to *Rupicola*, as suggested by Sclater and others.

[b] Cat. Birds Brit. Mus., xiv, 1888, 2.

[c] The typical, or nearly typical, pycnaspidean tarsus is possessed only by *Cephalopterus*, *Pyroderus*, *Querula*, *Hæmatoderus*, *Calyptura*, *Gymnoderus*, *Procnias*, *Tityra*, *Lathria*, *Carpodectes*, *Xipholena*, *Cotinga*, *Calyptura*, and *Idiotriccus*, the last named (hitherto referred to the Tyrannidæ) having not only the planta tarsi but also the lower portion of the acrotarsium covered with small, roughened, almost tuberculous, scutella. In *Erator*, *Platypsaris*, *Pachyrhamphus*, *Xenopsaris*, *Ampelion*, *Phibalura*, and *Heliochera* there is a continuous definite row of rather large scutella along each side of the planta tarsi, the structure being therefore essentially if not typically taxaspidean. In *Lipaugus*, *Casiornis*, *Sirystes*, *Tolmarchus*, and *Attila* there is a single row, either along the median line or occupying the outer and part of the inner side, while in *Euchlornis*, *Stictornis*, and *Iodopleura* the whole planta tarsi is without any sort of scutellation.

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Pogonotriccus, respectively, the first ("*Myiarchus*" *validus*) and second having the tarsal envelope almost typically holaspidean. Even with the slightly modified limits mentioned above, the Cotingidæ constitutes "one of the most heterogeneous of all the groups of birds. One has only to compare the little brightly colored *Calyptura cristata* with the large somber Umbrella-birds (*Cephalopterus*) to see how obviously this is the case. Unfortunately, the anatomy of a large number of the species has not yet been studied, so that the classification rests mainly upon external characters. The bond of union at present is the structure of the tarsal covering, which, to use Sundevall's term, is 'pycnaspidean.'[a] This structure includes the Phytotomidæ, which again are separable by their serrate bills."[b]

As stated by the authors of the "Biologia," quoted above, the Cotingidæ comprises birds of extremely diverse form, size, and coloration. The smallest species, scarcely 3½ inches long, closely resembles in general form and coloration some of the smaller Manakins, while the largest, 18 inches long, are not unlike a crow in appearance. Some species are perhaps the most richly colored of birds, others again are as plain in plumage as it is possible for birds to be, while a few are even uncouth in aspect, having bald heads, or worm-like fleshy appendages to the head. Many genera have remarkable modifications of the primary quills.

Most species are said to feed chiefly on fruits, though insects doubtless constitute a considerable part of their fare.

The Cotingas are peculiar to tropical America, chiefly the continental portion (only two species occurring in the West Indies, and these confined to Jamaica). About thirty genera and considerably more than one hundred species are known, of which only twelve genera and about twenty-five species (including subspecies) occur northward of the Isthmus of Panama. Of the two West Indian species one belongs to a continental genus (*Platypsaris*), the other to a monotypic endemic genus (*Hylonax*). "In this case," says Doctor Sclater, "as in many other Neotropical groups of animals and plants, there seem to be three districts which may be called the principal 'loci' of their development, namely: Central America (characterized by *Carpodectes* and the extraordinary species of *Chasmorhynchus* and *Cephalopterus*), Guiana and Amazonia (the home of *Phænicocercus*, *Rupicola*, *Querula*,[c] *Gymnocephalus*, and *Gymnoderus*), and southeastern Brazil, where alone we find *Tijuca*, *Phibalura*, and *Calyptura*."

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[a] But see footnote on p. 770.

[b] Salvin and Godman, *Biologia Centrali-Americana*, *Aves*, ii, 117, footnote.

[c] Instead of *Querula*, *Hæmatoderus* was no doubt intended, for, while the latter, a large and magnificently colored bird, is peculiar to Guiana and Amazonia, the former is not, but extends northward to Costa Rica.

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KEY TO THE GENERA OF COTINGIDÆ.[a]

a. Third phalanx of outer toe united to middle toe for at least half its length.

b. Inner side of planta tarsi feathered; bill shorter and weaker, the culmen gently curved and tip of maxilla slightly uncinate; adult males with sixth and seventh primaries shortened, especially the seventh, which is strongly bowed, with tip attenuate-spatulate and recurved; plumage partly red.

Phœnicircus (extralimital)[b]

bb. Inner side of planta tarsi unfeathered; bill longer and stronger, the culmen straight and tip of maxilla abruptly uncinate; adult males with sixth and seventh primaries normal; plumage without red (olive-green, yellow, and black).....**Laniisoma** (extralimital)[c]

aa. Third phalanx of outer toe entirely free from middle toe.

b. Mouth moderately cleft, the rictus not posterior to anterior angle of eye; mandible straight, with gonys much more than half as long as rami (usually nearly if not quite as long, sometimes longer); chin feathered; adult males without fleshy appendages or elongated wattles on head, and adult females not conspicuously streaked with yellow and olive on under parts.

c. Auricular region and sides of neck feathered; plumage of pileum, lores, nasal fossæ, and chin not short and velvety.

d. Smaller forms (wing less than 165 mm.).

e. Bill relatively smaller, the exposed culmen not longer (usually shorter) than middle toe without claw.

f. Tail conspicuously forked (swallow-like).....**Phibalura** (extralimital)[d]

ff. Tail not forked.

g. Larger forms (wing more than 80 mm.).

h. A long occipital crest of straight, narrow feathers; base of bill covered with a whitish, horny plate or incrustation.

Heliochera (extralimital)[e]

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[a] The following genera of this family have not been seen by me; and being unable to ascertain, from published descriptions, the essential features of their external structure (as for example, the character of tarsal scutellation and degree of cohesion between anterior toes), I am unable to properly place and define them in the "Key:"

(1) *Chirocylla* Sclater and Salvin, Proc. Zool. Soc. Lond., 1876, 357, in text. (Type, *Lathria uropygialis* Sclater and Salvin.)—*Chiroxilla* (emendation) Sharpe, Hand-list Birds, iii, 1901, pp. x, 166.

(2) *Doliornis* Taczanowski, Proc. Zool. Soc. Lond., 1874, 135 (*Dolyornis* on pl. 20). (Type, *Doliornis sclateri* Taczanowski.)

[b] *Phœnicircus* Swainson, Fauna Bor.-Am., ii, 1831, 491. (Type, *Ampelis carnifex* Linnæus.)—*Phoenicocercus* (emendation) Cabanis, Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 236.—*Phœnicercus* (emendation) Strickland, Ann. and Mag. Nat. Hist., vii, 1841, 29.—*Phaenicocercus* (emendation) Bonaparte, Consp. Av., i, 1850, 170.—*Carnifex* Sundevall, K. Vet.-Akad. Handl., 1835 (pub. 1836), 78. (Type, *Ampelis carnifex* Linnæus.) Two species, peculiar to Guiana and Amazonia.

[c] *Laniisoma* Swainson, Fanna Bor.-Am., ii, 1831, 492. (Type, *Lanius arcuatus* Geoffroy.)—*Ptilochloris* Swainson, Classif. Birds, ii, 1837, 250. (Type, *P. lunatus* Swainson. =*Lanius arcuatus* Geoffroy.)—*Collurampelis* Lesson, Rev. Zool., ii, 1839, 134. (Merely quoted as a synonym of *Ptilochloris* Swainson!)

[d] *Phibalura* Vieillot, Analyse, 1816, 31. (Type, *P. flavirostris* Vieillot.)—*Amphibolura* (emendation) Cabanis and Heine, Mus. Hein., ii, 1859, 103.—*Dicranura* van der Hoeven, Handb. der Dierk., 3d ed., ii, 1859, 733, in text. (New name for *Phibalura*.)—*Chelidis* Gloger, Froriep's Notizen, xvi, 1827, 278. (Type, *Phibalura flavirostris* Vieillot.) Southeastern Brazil; monotypic.

[e] *Heliochera* De Filippi, Cat. Mus. Mediol., Av., 1847, 31. (Type, *Ampelis rubrocristata* D'Orbigny and Lafresnaye.) Venezuala, Colombia, Ecuador, Peru, and Bolivia; two species.

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hh. No crest; base of bill without whitish lamina or incrustation.

i. Planta tarsi scutellate.

j. Larger (wing 140 mm., or more); adult male uniform black with yellow on remiges, adult female olive-green passing into yellowish on abdomen ..... **Tijuca** (extralimital)[a]

jj. Smaller (wing not more than 125 mm.); adult males not black nor with yellow on remiges, nor adult females plain olive-green.

k. Tail longer, equal to length of wing from bend to end of secondaries; coloration olive-green above (the back brown in one species), yellow below, the head and neck black in adult males..... **Ampelion** (extralimital)[b]

kk. Tail shorter, much shorter than wing from bend to end of secondaries; coloration with neither olive-green nor yellow; head and neck never black, or else throat purple and breast white or reddish black.

l. Bill very stout, its width at nostrils nearly equal to length of gonys, the latter shorter than mandibular rami; adult male with upper parts black, varied on wings, etc., with white, the under parts white with purple throat. **Porphyrolæma** (extralimital)[c]

ll. Bill weaker, its width at nostrils decidedly less than length of gonys, the latter equal to or longer than mandibular rami; adult males with upper parts blue, green, wine red, crimson-black, or very pale bluish gray; under parts blue and purple, green and purple, wine red, crimson-black, or entirely white.

m. Bill weaker, with culmen less strongly curved, relatively broader and more depressed basally; outermost (tenth) primary longer than fifth; adult males with outermost primaries narrow, attenuate terminally, upper parts bright blue or bluish green, under parts blue or bluish green with more or less of rich purple; adult females brownish or dusky with both upper and under parts more or less conspicuously squamated with whitish or buffy..... **Cotinga** (p. 778)

mm. Bill stouter, with culmen more strongly curved, relatively narrower and higher at base; outermost (tenth) primary shorter than fifth; adult males with all the primaries of normal shape; upper parts wine red, crimson-black, or bluish white, wings mostly white, and under parts wholly wine red, blackish crimson, or white; adult females plain gray or grayish brown above (the wings with broad white edgings), under parts paler plain gray or grayish brown, more or less whitish posteriorly.

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[a] *Tijuca* Lesson, Cent. Zool., 1830, 30, pl. 6. (Type, *Tijuca nigra* Lesson.)—*Chrysopteryx* Swainson, Fauna Bor.-Am., ii, 1831, 492. (Type, *Chrysopteryx erythrorhynchus* Swainson, = *Tijuca nigra* Lesson.)

[b] *Ampelion* Cabanis, in Tschudi's Fauna Peruana, Aves, 1845, 137. (Type, *Procnias cucullata* Swainson.)—*Ampelio* (emendation) Cabanis, Mus. Hein., ii, 1859, 104.—*Carpornis* Gray, Gen. Birds, i, 1846, 279. (Type, *Procnias melanocephalus* Swainson.) Two species, confined to southeastern Brazil.

[c] *Porphyrolæma* Bonaparte, Consp. Voluc. Anisod., 1854, 5. (Type, *P. phygas* Bonaparte, = *Cotinga porphyrolæma* Sclater.) One species in upper Amazons.

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n. Bill weaker and more depressed, with culmen less strongly curved and mandibular rami narrower; nostrils wholly exposed; rictal bristles well developed; tail more than half as long as wing; adult males uniform wine red or blackish crimson with white wings (tail also white in one speceis), the plumage of head, neck, and body hair-like or lanceolate.....**Xipholena** (extralimital)[a]

nn. Bill stronger, deeper, with culmen more strongly curved and mandibular rami broader; nostril covered posteriorly by short, dense feathering of loral antiæ; rictal bristles weak (obsolete in adult males); tail less than half as long as wing; adult males with plumage pure white, shaded on upper parts with pale bluish gray, the plumage of head, neck, and body normal (soft and blended).

Carpodectes (p. 786)

ii. Planta tarsi non-scutellate.

jj. Bill much smaller, weaker, and more depressed, with culmen less strongly arched and shorter than lateral toes (without claws); tail relatively longer (nearly or quite as long as wing from bend to end of secondaries); outermost (tenth) primary shorter than first.....**Euchlornis** (extralimital)[b]

jj. Bill much larger, stronger, and deeper, with culmen more strongly arched and longer than lateral toes (without claws); tail relatively shorter (decidedly shorter than length of wing to end of distal secondaries); outermost (tenth) primary longer than first.....**Stictornis** (extralimital)[c]

gg. Smaller (wing less than 80 mm.)

h. Tail less than half as long as wing.

i. Bill broader, its width at frontal antiæ nearly equal to length of exposed culmen; wing-tip long, the longest primaries exceeding distal secondaries by much more than length of tarsus; color plain dark gray, sooty brown, or black, above, with or without a white band across rump; adult males with a tuft of violaceous or lilaceous elongated feathers on each side of breast.

Iodopleura (extralimital)[d]

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[a] *Xipholena* Gloger, Hand- und Hilfsbuch der Naturg., 1842, 320. (Type, *Ampelis pompadora* Linnæus. = *Turdus puniceus* Pallas.) Guiana to southeastern Brazil; three species.

[b] (?) *Pipreola* Swainson, Anim. in Menag., 1838, 357. (Type, *P. chlorolepidota* Swainson, an unidentified species, possibly not a member of this group.)—*Euchlornis* De Filippi, Mus. Mediol., An. Vert., cl. ii, 1847, 31. (Type, *Ampelis riefferi* Boissonneau.)—*Euchlorornis* (emendation) Cabanis, Mus. Hein., ii, 1859, 103.—*Pyrrhorhynchus* Lafresnaye, Rev. Zool., 1849, 103. (Type, *Ampelis viridis* D'Orbigny and Lafresnaye.)—*Pyrorhynchus* Bonaparte, Consp. Volucr. Anisod., 1854, 5. A group of about twelve species (of which, however, I have seen only *E. riefferi*, *E. melanolæma*, *E. viridis*, *E. jucunda*, *E. aureipectus*, and *E. arcuatus*), inhabiting Colombia, Ecuador, Peru, Bolivia, Venezuela, and Guiana. To this genus I would unhesitatingly refer *Ampelis arcuata* Lafresnaye, which has usually been placed in *Ampelion*.

[c] *Stictornis* Ridgway, Proc. Biol. Soc. Wash., xiii, Sept. 2, 1905, 209. (Type, *Ampelis cinctus* Tshudi.)

[d] *Iodopleura* Lesson, Rev. Zool., 1839, 45. (Type, *Pardalotus pipra* Lesson.) Guiana and upper Amazonia to southeastern Brazil; four species.

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ii. Bill narrower, its width at frontal antiæ much less than length of exposed culmen; wing-tip short, the longest primaries exceeding distal secondaries by only about one-third the length of tarsus (or less); color yellowish olive-green above, the crown with a central patch of scarlet margined on each side by a stripe of black; wings with two white bands; rump and under parts yellow.....**Calyptura** (extralimital)[a]

hh. Tail more than half as long as wing.

i. Tail not longer than distance from bend of wing to end of distal secondaries.

j. Scutella on lower portion of acrotarsium large (normal), the planta tarsi with very indistinct small scutella (obsolete except on lower portion).

k. Outer toe (without claw) longer than inner toe; pileum not crested, uniform dark gray or sooty; a conspicuous white supraloral streak.

l. Tail much less than two-thirds as long as wing; exposed culmen shorter than middle toe without claw; wings without white markings.....**Microtriccus** (p. 790)

ll. Tail about four-fifths as long as wing; exposed culmen as long as middle toe without claw; wings with conspicuous whitish markings.....**Ornithion** (extralimital)[b]

kk. Outer toe (without claw) not longer than inner toe; pileum crested, yellow centrally, black laterally **Tyrannulus** (p. 793)

jj. Scutella on lower portion of acrotarsium small, rough, almost tuberculate; planta tarsi covered nearly throughout with small, rough scutella, becoming almost tuberculate on lower portion.....**Idiotriccus** (p. 796)

ii. Tail much longer than distance from bend of wing to end of distal secondaries.....**Elainopsis** (p. 799)

ee. Bill relatively larger, the exposed culmen longer than middle toe without claw.

f. Aspect Tyrannine, the bill more compressed terminally, with ridge of culmen more distinct and tip of maxilla distinctly uncinate; the feathers of frontal antiæ and chin with very distinct (often conspicuous) bristly tips, the rictal bristles strongly developed.

g. Tarsus relatively longer (longer than middle toe with claw, more than one-fifth as long as wing), entirely unfeathered, the planta tarsi not pycnaspidean; culmen curved terminally only.

h. Bill longer and more compressed (its width at frontal antiæ much less than half the length of exposed culmen), very strongly and abruptly decurved terminally, the tip of maxilla very strongly uncinate; frontal, rictal, and mental bristles very strongly developed; tail not longer than wing to end of distal secondaries; tarsus much more than one-fourth as long as wing, the planta tarsi mostly non-scutellate or with a series of small scutella along the median line.....**Attila** (p. 801.)

hh. Bill shorter and broader (its width at frontal antiæ nearly or quite equal to one-half the length of exposed culmen), less strongly and more gradually decurved terminally, the tip of maxilla

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[a] *Calyptura* Swainson, Fauna Bor.-Am., ii, 1831, 491. (Type, *Pardalotus cristatus* Vieillot.) Southeastern Brazil; monotypic.

[b] *Ornithion* Hartlaub, Journ. für Orn., 1853, 35. (Type, *O. inerme* Hartlaub.)—*Ornithium* (emendation) Cabanis and Heine, Mus. Hein., ii, Sept., 1859, 57. Cayenne to eastern Ecuador; monotypic.

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moderately uncinate; frontal and (except in *Hylonax*) rictal bristles less strongly developed; tail decidedly longer than distance from bend of wing to end of distal secondaries; tarsus much less than one-fourth as long as wing, the planta tarsi holaspidean (a single row of large scutella occupying the greater part).

i. Upper portion of planta tarsi smooth (normal).

j. Bill relatively longer and narrower, the exposed culmen nearly as long as tarsus, more than twice the width of bill at frontal antiæ, faintly concave (as in *Attila*) near middle portion. **Hylonax** (p. 813)

jj. Bill relatively shorter and broader, the exposed culmen much shorter than tarsus (except in *Sirystes*, part), much less than twice the width of bill at frontal antiæ, not at all concave.

k. Bill shorter and broader, its width at frontal antiæ nearly equal to length of gonys; pileum and back greenish olive. **Ramphotrigon** (extralimital).[a]

kk. Bill longer and narrower, its width at frontal antiæ much less than half the length of gonys; pileum and back not greenish olive.

l. Outermost (tenth) primary not shorter than fourth (sometimes longer); color above grayish, with blackish pileum, wings, and tail (the wings with conspicuous white or otherwise light-colored edgings), gray or whitish beneath. **Sirystes** (p. 815)

ll. Outermost (tenth) primary much shorter than fourth; color above plain rufous, or brown with rufous pileum and tail, beneath paler, passing into yellowish on abdomen. **Casiornis** (extralimital)[b]

ii. Upper portion of planta tarsi serrated (the scutella tuberculate or spiciform)..... **Lipaugus** (p. 818)

gg. Tarsus relatively shorter (shorter than middle toe with claw, much less than one-fifth as long as wing), the upper portion feathered in front, the planta tarsi pycnaspidean; culmen curved from base. **Lathria** (p. 821)

ff. Aspect not Tyrannine, the bill less compressed terminally or else (*Tityra*) as deep as broad at base, less strongly uncinate (except in *Tityra* and *Erator*) and ridge of culmen less distinct, the feathers of frontal antiæ and chin without distinct if any bristly points, and rictal bristles very weak or obsolete.

g. Tail nearly as long as wing; adult male with all the primaries normal. **Xenopsaris** (extralimital)[c]

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[a] *Ramphotrigon* Gray, Cat. Gen. and Subgen, Birds, 1855, 146 (ex "Pr. B[onaparte] 1854"). (Type, *Platyrhynchus ruficaudus* Spix.) Guiana and Amazon Valley; monotypic.

[b] *Casiornis* Des Murs, Orn. Voy. Castelnau, 1855, 55 (ex Bonaparte, MSS). (Type, *C. typus* Des Murs,= *Muscicapa rubra* Vieillot.) Southern Brazil, Paraguay, and Argentina; two species.

[c] *Xenopsaris* Ridgway, Proc. U. S. Nat. Mus., xiv, no. 870, Oct. 22, 1891, 479. (Type, *Pachyrhamphus albinucha* Burmeister.)—*Prospoietus* Cabanis, Journ. für Orn., Jan., 1892, 126 (same type). Argentina; monotypic. In spite of the opinion of Doctor Cabanis (loc. cit.), Doctor Sclater (Proc. Zool. Soc. Lond., 1893, 166), and Count von Berlepsch and Doctor Hartert (Novit. Zool., ix, 1902, 36) that this genus belongs to the Tyrannidæ. I find on examination of the specimen in the U. S. National Museum

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gg. Tail much shorter than wing (not longer than distance from bend to end of secondaries); adult males with ninth (next to outermost) primary much abbreviated, with attenuate or acuminate tip.[a] (*Tityræ.*)

h. Tail as long as wing from bend to end of secondaries, rounded or graduated; abbreviated ninth primary broad, abruptly attenuate (sometimes falcate) and acute at tip; bill much smaller (exposed culmen much shorter than tarsus).

i. Smaller (wing less than 85 mm.); abbreviated ninth primary with tip more sharply acuminate, sometimes emarginate, with outer point subfalcate; bill relatively broader and flatter (much wider than deep at base).....**Pachyrhamphus** (p. 825)

ii. Larger (wing more than 85 mm.); ninth primary more obtusely and broadly attenuate at tip, never emarginate nor subfalcate; bill more cylindrical, its width at base not distinctly greater than its depth at same point.....**Platypsaris** (p. 846)

hh. Tail much shorter than wing from bend to end of secondaries, even; abbreviated ninth primary slender, gradually attenuated to tip; bill much larger, the exposed culmen as long as tarsus.

i. Lores and orbital region feathered; planta tarsi taxaspidean (a single longitudinal series of large hexagonal scutella along each side); bill much broader (width at base much greater than depth at same point); gonys nearly twice as long as mandibular rami; tip of maxilla less strongly uncinate...**Erator** (p. 860)

ii. Lores and orbital region naked; planta tarsi pycnaspidean (covered with numerous small hexagonal scutella, not arranged in rows or regular series); bill more compressed (width at nostrils little if any greater than depth at same point); gonys scarcely longer than mandibular rami; tip of maxilla more strongly uncinate.....**Tityra** (p. 866)

dd. Larger forms (wing 165–250 mm.). (*Pyrodereæ.*)

e. Pileum, lores, and orbital region feathered; color above uniform black or dusky (or else with at least pileum and hindneck red), the under parts wholly black, wholly red, or black with red or purple throat.

f. Pileum not crested; color not wholly black (except in female and young of *Querula*).

g. Under parts of body, together with whole head and neck, red; feathers of pileum and hindneck narrow, distinctly outlined.

Hæmatoderus (extralimital)[b]

gg. Under parts of body black or dusky.

h. Smaller (wing less than 200 mm.); adult male with a large wine-colored patch on throat.....**Querula** (p. 874)

(a co-type) that *Xenopsaris* has *not* an exaspidean tarsus, and therefore can not be a member of that family. The only explanation that I am able to suggest is that the authors named may have had in hand specimens of some Tyrannine bird so closely resembling *Xenopsaris* that an error of identification has been made, or else that their understanding of the limits and characters of the two groups is different from my own.

[a] Occasional fully adult males occur in which the ninth primary is entirely normal, both as to size and form; therefore the limits of this group might well include *Xenopsaris*, so far as this character is concerned.

[b] *Hæmatoderus* Bonaparte, Ann. Sci. Nat., ser. 4, Zool., i, 1854, 134. (Type, *Coracias militaris* Latham.) Guiana and lower Amazon Valley; monotypic.

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hh. Larger (wing more than 200 mm.); both sexes with whole throat and chest scarlet.....**Pyroderus** (extralimital)[a]

ff. Pileum with an umbrella-shaped crest, and forneck with a pendant wattle; color entirely black.....**Cephalopterus** (p. 877)

ee. Pileum, lores, and orbital region naked; color olive-tawny above, the wings and tail dusky, tawny below .....**Calvifrons** (extralimital)[b]

cc. Auricular region and sides of neck naked; plumage of pileum, lores, nasal fossæ and chin short, dense, and velvety. (*Gymnodereæ*.)

Gymnoderus (extralimital)[c]

bb. Mouth deeply cleft, the rictus beneath middle of eye; mandible very narrow, arched, with gonys less than half as long as rami; chin (sometimes whole throat) naked; adult males with elongated fleshy appendages on head, and adult females conspicuously streaked with olive and yellow on under parts (the wing more than 130 mm.). (*Procniatinæ*)..... **Procnias** (p. 880)

Genus COTINGA Brisson.

Cotinga Brisson, Orn., ii, 1790, 339. (Type, *Ampelis cotinga* Linnæus.)

Hylocosmia Sundevall, Met. Nat. Av. Disp. Tent., 1872, 62. (New name for *Cotinga* Brisson, rejected on ground of purism; "nomen h. l. datum; ὕλη et χοσμος, silvæ ornamentum.")

Medium-sized Cotingidæ (wing about 100—125 mm.), the adult males richly colored with bright blue and purple, the females and immature males dusky grayish brown above, lunulated or squamated with whitish or buffy, paler below, with broader whitish or buffy lunulations.

Bill small, less than half as long as head, broad and depressed basally, its depth at nostrils decidedly less than its width at the same point; culmen distinctly ridged, gently curved from near base, more strongly so terminally, the tip of maxilla slightly uncinate; gonys about as long as mandibular rami or slightly shorter, faintly convex; maxillary tomium slightly but distinctly concave, with distinct subterminal notch. Nostril wholly exposed, rather large, broadly oval, margined supero-posteriorly by membrane. Rictal bristles moderately developed. Wing moderate, with longest primaries exceeding

[a] *Coracina* (not of Vieillot, 1816) Temminck, Pl. Col., livr. 7, 1823. (Type, *Coracias scutata* Shaw.)—*Corvina* Hahn, Vögel aus Asien, etc., Lief. ii, 1822, pl. 4, and text. (Type, *Coracina rubricollis* Vieillot, = *Coracias scutata* Shaw.)—*Pyroderus* Gray, List Gen. Birds, 1840, 38. (Same type). Colombia and Venezuela to Paraguay; four species.

[b] *Calvifrons* Daudin, Ann. Mus. Hist. Nat., iii, 1804, 146. (Type, *Corvus calvus* Linnæus.)—*Gymnocephalus* (not of Bloch and Schneider, 1801) Geoffroy St.-Hilaire, Ann. Mus. Hist. Nat., xiii, 1809, 237. (Same type)—*Perissocephalus* Oberholser, Proc. Acad. Nat. Sci. Phila., June 2, 1899, 209 (to replace *Gymnocephalus*, preoccupied.) Guiana; monotypic.

[c] *Gymnoderus* Geoffroy St.-Hilaire, Ann. Mus. Hist. Nat., xiii, 1809, 237. (Type, *Gracula fœtida* Linnæus.)—*Coracina* (not *Coracinus* Gronovius, 1763) Vieillot, Analyse, 1816, 37. (Type, *C. gymnodera* Vieillot, = *Gracula fœtida* Linnæus.)—*Coronis* Gloger, Froriep's Notizen, xvi, 1827, 277. (Same type.) Guiana to eastern Ecuador; monotypic.

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secondaries by at least length of exposed culmen; seventh and eighth, seventh, eighth and ninth, or sixth to ninth, primaries longest, with tenth equal to fifth or sixth (or intermediate) in females; adult males with outermost primaries more or less attenuated, very variable (according to the species) in relative length, but tenth usually longer than sixth. Tail about two-thirds to three-fourths as long as wing, even, slightly emarginate, rounded, or double rounded, the rectrices rather broad, with roundish tip. Tarsus longer than exposed culmen, but usually shorter than commissure, its scutellation pycnaspidean; middle toe, with claw, about equal to tarsus, its basal phalanx wholly adherent to outer toe, about half united to inner toe; outer toe, without claw, reaching to about middle of subterminal phalanx of middle toe, the inner very little shorter; hallux slightly shorter than inner toe, its basal pad (tylarus) moderately widened and flattened.

Plumage and coloration.—Adult males: Contour feathers of upper parts distinctly outlined (except in *C. maynana*), rather narrow, especially on pileum, sometimes more or less pointed, those of the under parts blended; color of upper parts rich purplish blue to bluish green, the under parts partly rich purplish blue to bluish green and partly purple, in variable relative extent; in one species the whole contour plumage, except purple upper throat, blue with a purple bar and white base to each feather. Adult females and young males: Contour feathers, both above and below, broad and rounded, distinctly outlined; color of upper parts dark grayish brown or brownish gray, the feathers margined terminally with whitish or buffy, the under parts similar, but paler, usually with the pale margins much broader, producing a conspicuously squamate effect.

Nidification.—(Unknown?)

Range.—Southern Mexico to southern Brazil and eastern Ecuador. (Seven species.)

KEY TO THE SPECIES OF COTINGA.

a. General color rich blue, the under parts with more or less of purple. (Adult males.)

b. Under parts of body without any purple, the color being light bluish green intermixed with black (the latter mostly concealed). (Guiana and Amazon Valley.)

Cotinga cayana, adult male (extralimital)[a]

bb. Under parts of body with more or less of purple.

c. Inner webs of remiges wholly dusky; breast wholly purple or with a patch of purple; blue feathers of upper and under parts without concealed purple, those of upper parts not white at base.

d. Whole breast purple, the blue of under parts of body restricted to flanks and under tail-coverts.

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[a] [*Ampelis*] *cayana* Linnæus, Syst. Nat., ed. 12, i, 1766, 298 (Brazil; Cayenne; based on *Cotinga cayanensis* Brisson, Orn., ii, 344, pl. 24, fig. 3).—[*Cotinga*] *cayana* Bonaparte, Consp. Av., i, 1850, 175.—*Cotinga cayana* Sclater, Cat. Am. Birds, 1862, 256; Cat. Birds Brit. Mus., xiv, 1888, 385.—*A*[*mpelis*] *cajana* Hartlaub, Syst. Verz., 1844, 56 (Brazil).—*Ampelis cayennensis* D'Orbigny, Voy. Amer. Mérid., Ois., 1839, 297 (Yuracares, Bolivia).

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e. No blue band across chest; blue of upper parts, flanks, etc., more purplish. (Cayenne and Guiana to lower Amazon and Rio Negro.)

Cotinga cotinga, adult male (extralimital)[a]

ee. A blue band across chest. (Southeastern Brazil.)

Cotinga cincta, adult male (extralimital)[b]

dd. Sides of breast blue, like flanks, etc.

e. Tail-coverts reaching to tip of tail; outermost (tenth) primary much longer than seventh (nearly equal to eighth); purple pectoral area larger; no black line along anterior and lower margin of forehead; no black orbital ring. (Eastern Costa Rica to eastern Mexico.)

Cotinga amabilis, adult male (p. 781)

ee. Tail-coverts falling far short of tip of tail; outermost (tenth) primary much shorter than sixth; a black line along anterior and lower margin of forehead and a narrow black orbital ring.

f. Throat brighter purple, without blackish bars; pectoral area lighter and clearer purple, without dusky bars; blue band across upper breast narrower; ninth (next to outermost) primary much shorter than eighth, conspicuously narrowed. (Western Costa Rica and western Panama.)

Cotinga ridgwayi, adult male (p. 783)

ff. Throat darker purple, with narrow bars of black and gray; pectoral area darker purple, barred (mostly beneath surface) with black or dark green and gray; blue band across upper breast broader; ninth (next to outermost) primary nearly as long as eighth, not conspicuously narrowed (though contracted in middle portion). (Eastern Panama to central Colombia.)

Cotinga nattereri, adult male (p. 785)

cc. Inner webs of remiges mostly white (except terminally); breast wholly blue (except beneath surface); blue feathers of upper and under parts with a concealed band of purple, those of upper parts pure white basally. (Eastern Ecuador and eastern Peru.)

Cotinga maynana, adult male (extralimital)[c]

aa. General color dusky grayish brown above, more or less distinctly squamated with whitish, below grayish, squamated with paler, or buffy or whitish spotted with dusky grayish brown. (Adult females and young.)

b. Axillars, under wing-coverts, and edges of inner webs of remiges buff or cinnamon-buff; paler portions of under parts buffy.

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[a] [*Ampelis*] *cotinga* Linnæus, Syst. Nat., ed. 12, i, 1766, 298 (Brazil; based on *Cotinga* Brisson, Orn., ii, 340, pl. 34, fig. 1).—*Cotinga cotinga* Hartert, Kat. Vogelsaml. Sekenb., 1891, 106 (Cayenne).—*A*[*mpelis*] *cærulea* Vieillot, Tabl. Enc. Méth., 1822, 760 (based on *Cotinga* Brisson).—*Cotinga cærulea* Sclater, Cat. Am. Birds, 1862, 256; Cat. Birds Brit. Mus., xiv, 1888, 382.—*C*[*otinga*] *cælestis* Gray, List Gen. Birds, 1841, 46.—*Cotinga caelestis* Bonaparte, Consp. Av., i, 1850, 175.

[b] *Ampelis cincta* Kuhl, Buff. et Daub. Fig. Av. Col. Nom. Syst., 1820, 4 (based on *Cotinga du Bresil* Daubenton, Pl. Col., pl. 188).—*C*[*otinga*] *cincta* Gray, Gen. Birds, i, 1846, 279; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 383.—*Ampelis superba* Shaw, Nat. Misc., xix, no. 11, July, 1808, pl. 821.—*Ampelis cotinga* (not of Linnæus) Vieillot, Enc. Méth., ii, 1823, 761.—[*Cotinga*] *cærulea* (not *Ampelis cærulea* Vieillot) Bonaparte, Consp. Av., i, 1850, 175.

[c] [*Ampelis*] *maynana* Linnæus, Syst. Nat., ed. 12, i, 1766, 298 ("Mayanensi regione;" based on *Cotinga mayanensis* Brisson, Orn., ii, 341, pl. 34, fig. 2).—[*Cotinga*] *maynana* Bonaparte, Consp. Av., i, 1850, 176.—*Cotinga maynana* Sclater, Proc. Zool. Soc. Lond., 1857, 265; Cat. Birds Brit. Mus., xiv, 1888, 386.—*Cotinga mayana* Allen, Bull. Am. Mus. N. H., ii, 1889, 74 (Rio Napo, e. Ecuador).

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c. Under parts deep brownish gray, the feathers narrowly margined with paler.
Cotinga cayana, adult female and young (extralimital).
cc. Under parts buffy, spotted with dusky (the spots larger on breast).
d. Buffy whitish tips to feathers of pileum and hindneck narrower.
e. Larger (wing 118-121 mm.)
Cotinga cincta, adult female and young (extralimital).
ee. Smaller (wing 100 mm.)
Cotinga cotinga, adult female and young (extralimital).
dd. Buffy whitish tips to feathers of pileum and hindneck broader.
Cotinga ridgwayi, adult female and young (p. 784)
bb. Axillars, under wing-coverts, and edges of inner webs of remiges white or grayish white (the first two sometimes marked with grayish); paler portions of under parts white .....**Cotinga amabilis**, adult female and young (pp. 781–783)

COTINGA AMABILIS Gould.

LOVELY COTINGA.

Adult male.—Above, including lesser and middle wing-coverts, very rich, bright blue (nearest to sevres or cerulean blue),[a] changing to bright light yellowish green when viewed from the light, and to ultramarine or cobalt blue when viewed toward the light; the color slightly but distinctly deeper on the pileum, the blue feathers everywhere with a black subterminal space and basal pointed space of gray, but entirely concealed except when feathers are disarranged; malar region and lower half (or more) of auricular region glossy purplish black or blackish purple, the chin, throat, and upper chest rich, dark auricula purple; a large, somewhat shield-shaped or obovate patch of rich auricula purple covering breast and median portion of abdomen; rest of under parts, including a broad and sharply defined band between the purple gular and pectoral areas, rich, bright blue, like upper parts; wings (except lesser and middle coverts), black, the greater and primary coverts and secondaries edged with blue or greenish blue, or bluish green, more broadly on tertials and terminal portion of greater coverts; tail black, the rectrices edged with greenish blue or bluish green; axillars and under wing-coverts black, margined with greenish blue or bluish green; inner webs of remiges blackish slate, becoming paler slate or slate-grayish on edges; maxilla grayish black, becoming more grayish basally; mandible dusky grayish (bluish gray in life?), darker terminally; legs and feet black; length (skins), 175–196 (186); wing, 113.5–120.5 (118.3); tail, 60.5–67.5 (65.2); exposed culmen, 12.5–15 (13.8); tarsus, 20–22.5 (21.1); middle toe, 16–18 (17.5).[b]

Adult female.—General color of upper parts dark grayish brown or sooty (sometimes tinged with greenish, especially on scapulars),

[a] There is not, however, any blue represented on the writer's "Nomenclature of Colors" that is sufficiently pure or bright.

[b] Fourteen specimens.

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each feather margined terminally with white or grayish white (producing a squamate appearance), these whitish terminal margins, or tips, broadest on rump and upper tail-coverts; tail dusky grayish brown, the rectrices very narrowly edged with green or greenish gray and, usually, narrowly margined at tip with dull whitish or buffy; wings dusky grayish brown (the lesser coverts usually more or less strongly tinged with greenish, the middle coverts sometimes edged with the same), the lesser coverts (narrowly) and middle coverts (broadly) margined terminally with whitish, the greater coverts and secondaries edged with pale grayish brown or buffy (edgings broader and more whitish on tertials), the primaries and primary coverts very indistinctly edged with paler grayish brown; under parts dull white, each feather (except on lower abdomen and under tail-coverts) with a central spot of dusky grayish brown, these spots smaller, paler, and less distinct on chin and throat, larger and darker on chest and sides, the flanks and under tail-coverts sometimes tinged with brownish buff; axillars and under wing-coverts white, with or without pale grayish brown markings; inner webs of remiges broadly edged with white (except terminally); bill, iris, and feet as in adult male; length (skins), 169–198 (184); wing, 107–117 (114.2); tail, 63.5–71.5 (68.2); exposed culmen, 13–14.5 (13.6); tarsus, 20.5–23 (21.6); middle toe, 15.5–18 (17.3).[a]

[a] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Vera Cruz, Mexico	118	65.5	12.5	21.5	18
Ten adult males from Guatemala (1) and Honduras (9)	118.5	65.2	13.9	21.1	17.1
Three adult males from Costa Rica	117.7	65.2	13.8	21.1	17.5
FEMALES.					
One adult female from Vera Cruz	116.5	67.5	13	21.5	18
Nine adult females from Guatemala (3) and Honduras (6)	113.6	68.2	13.6	21.3	17.3
Two adult females from Costa Rica	116	68.5	14.2	23	16 7

Some of the Honduras specimens are doubtless young birds, which may account for the shorter wing measurements.

The adult males from Honduras, Guatemala, and Mexico all have the purple pectoral area relatively decidedly larger than those from Costa Rica, but this may possibly be due to different make-up of skins. If not, then certainly the birds from the two areas should be separated subspecifically. Of the two adult females from Costa Rica one is in greatly worn plumage and therefore is not comparable with any of the northern series; the other is more strongly tinged with buff on lower parts and has the whitish tips to feathers of upper parts smaller than any of the specimens from Honduras and northward. The series, both males and females, from Costa Rica is, however, much too small for satisfactory comparison.

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Immature male and female.—Similar to the adult female, but secondaries and greater wing-coverts tipped and edged with cinnamon-buff, and feathers of pileum (at least in immature female) tipped with pale brown instead of whitish.

Southeastern Mexico, in States of Vera Cruz (Orizaba; Mirador; Pasa Nueva) and Oaxaca (Chimalapa) and southward through Atlantic slope of Guatemala (Choctum; Coban to Chisec) and Honduras (Ceiba; Chasniguas; Los Caminos) to Costa Rica ("San José;" Naranjo de Cartago; Carrillo; Talamanca).

Cotinga amabilis GOULD, Proc. Zool. Soc. Lond., XXV, 1857, 64, pl. 123 (Guatemala; coll. J. Gould); Ann. and Mag. N. H., xx, 1857, 380.—SCLATER and SALVIN, Ibis, 1859, 4, 5, 125 (Vera Paz, Guatemala).—SALVIN, Ibis, 1860, 100 (highlands of Guatemala), 193 (Coban, Guatemala).—SCLATER, Proc. Zool. Soc. Lond., 1860, 252 (Orizaba, Vera Cruz); Cat. Am. Birds, 1862, 256 (Choctum, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 384 (Choctum and Coban, Guatemala; Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 117 (San José, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 310 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 138, part (Chimalapa, Orizaba, etc., not "Panama (?)" = *C. nattereri*).—BANGS, Bull. Mus. Comp. Zool., XXXIX, 1903, 149 (Ceiba, Honduras).

[*Cotinga*] *amabilis* GRAY, Hand-list, i, 1869, 370, no. 5618.—SHARPE, Hand-list, iii, 1901, 174.

Ampelis amabilis CABANIS, Journ. für Orn., 1861, 253 (Costa Rica).

COTINGA RIDGWAYI Zeledon.

RIDGWAY'S COTINGA.

Similar to *C. amabilis*, but smaller (except bill); adult male with wing-formula very different, the tenth and ninth primaries abruptly much shorter than eighth and (especially the ninth) much reduced in width; tail-coverts much shorter, not covering more than two-thirds of the tail (instead of extending to or even beyond tip); forehead margined anteriorly and below by a black line (wanting in *C. amabilis*); concealed black spots on upper parts larger, more or less exposed on back and scapulars; adult female with ground color of under parts buff (cinnamon-buff on axillars and under wing-coverts), instead of dull white, and general color of upper parts much darker.

Adult male.—Upper parts very rich bright blue (nearest cerulean or sevres), changing to bright yellowish green (except on head and neck) when viewed from the light, and to more purplish (cobalt or ultramarine) blue when viewed toward the light, the feathers black or greenish black immediately beneath the surface (exposed, more or less, as black spotting on scapulars and back), this black inclosing a basal pointed area of gray; tail black, the rectrices (except outermost) narrowly edged with blue; lesser and middle wing-coverts black centrally, broadly margined with bright blue; rest of wings

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black, the greater coverts and secondaries edged with blue; a narrow but distinct line of black margining the forehead anteriorly and below, from base of culmen to rictus; a narrow orbital ring of black; malar region, lower portion of auricular region, whole throat, and upper chest rich dark auricula purple, with a convex and sharply defined posterior outline; center of breast and median line of abdomen rather (sometimes decidedly) lighter auricula purple, fading into mauve posteriorly; rest of under parts rich bright blue, like upper parts; axillars and under wing-coverts greenish black margined with bluish green or greenish blue; inner web of remiges blackish slate, becoming (indistinctly) paler slaty on edges; maxilla blackish, more grayish basally; mandible grayish (bluish gray in life), paler (sometimes whitish) basally; iris dark brown;[a] legs and feet grayish black or dusky gray (bluish gray in life?); length (skins), 166–177 (172); wing, 103.5–111 (106.4); tail, 61.5–65 (63.1); exposed culmen, 12–15 (13.9); tarsus, 20–21 (20.4); middle toe, 16–16.5 (16.2).[a]

Adult female.—Above very dark grayish brown or sooty, the feathers tipped or terminally margined with dull buffy white (these markings broader and distinctly buffy on rump and under tail-coverts), producing a conspicuously speckled and squamate appearance; rectrices narrowly tipped with cinnamon-buff and edged with pale greenish gray; lesser wing-coverts narrowly tipped with buffy whitish; middle coverts broadly margined terminally with cinnamon-buff, the greater coverts edged and tipped with the same; secondaries narrowly edged (except basally) with pale grayish buff; under parts pale buff or dull buffy white anteriorly, the feathers of throat and upper chest with a small central spot of grayish brown, those of lower chest with a large central spot of dusky, and margined with more whitish buff; under parts of body buff, deepening into light cinnamon-buff posteriorly, the sides and flanks with large central spots of deep grayish brown, those of abdomen with smaller and more concealed spots of the same; axillars and under wing-coverts uniform buff or pale cinnamon-buff, deeper toward edge of wing; inner webs of remiges edged with pale grayish cinnamon-buff; bill, legs, and feet as in adult male; length (skin), 177; wing, 100; tail, 66; exposed culmen, 13; tarsus, 21; middle toe, 17.5.[b]

[a] Five specimens.

[b] One specimen, from Panama.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Costa Rica (Pozo Azul de Pirris)	106.7	63.7	13.3	20.5	16.2
Two adult males from Panama (Bogaba)	106	62.2	14.7	20.2	16.2

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Immature male.—Similar to the adult female, but with scattered bright-colored feathers indicating the final assumption of the adult plumage.

Southwestern Costa Rica (Pozo Azul de Pirris; Pigres) and western Pacific slope of Panama (Bogaba).

Cotinga amabilis ? (not *Cotinga amabilis* Gould) SALVIN, Proc. Zool. Soc. Lond., 1870, 200 (Bugaba, Panama).

Cotinga ridgwayi "Zeledon, MS." RIDGWAY, Proc. U. S. Nat. Mus., x, Apr. 25, 1887, 1, pl. 6, fig. 3 (Pozo Azul, w. Costa Rica; coll. U. S. Nat. Mus.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 384 (Bugaba, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 139.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 41 (Bogaba, Panama).

[*Cotinga*] *ridgwayi* SHARPE, Hand-list, iii, 1901, 174.

COTINGA NATTERERII (Boissoneau).

NATTERER'S COTINGA.

Similar to *C. ridgwayi*, but adult male with form and relative length of outer primaries very different, the ninth much longer than the tenth (outermost), sometimes as long as eighth, the ninth and eighth distinctly widened (instead of contracted) terminally; middle of throat and upper chest narrowly barred with black; blue band across breast broader, and purple abdominal area barred (mostly beneath the surface) with black or greenish black.

Adult male.—Above rich, bright blue (nearest cerulean or sevres), changing to yellowish green (except on head and neck) when viewed from the light, to more purplish blue (cobalt or ultramarine) when viewed toward the light, the color deeper on pileum; feathers of upper parts black immediately beneath the surface, this inclosing a basal area of gray, the black showing wherever the feathers are disarranged and permanently on scapulars; tail black, the rectrices (except outermost) narrowly edged with blue; lesser and middle wing-coverts bright blue, black basally (this conspicuously exposed on middle coverts); rest of wing black, the greater coverts and secondaries edged with blue; a black orbital ring, broadest in front of eye; a black line along lower and anterior margin of forehead, from rictus to base of culmen; chin blue, slightly intermixed with blackish; malar region, lower edge of auricular region, whole throat, and upper chest very dark or blackish purple (more bluish than prune purple), the median portion (broadly) of this dark purple area narrowly barred with black; a large spot on lower breast deep auricula purple, fading into mauve-purple on abdomen, the feathers of this purple area narrowly barred (mostly beneath surface) with black or dusky green; rest of under parts bright rich blue, like upper parts, the feathers similarly marked with black and gray beneath surface; axillars and under wing-coverts greenish black margined with bluish

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green or greenish blue; inner webs of remiges blackish slate passing into paler slate on edges; maxilla grayish (bluish gray in life) basally, black terminally; mandible grayish (bluish gray or grayish blue in life?), darker at tip; legs and feet grayish black (lead-colored or bluish gray in life?); length (skins), 189; wing, 110; tail, 68.5–69 (68.7); exposed culmen, 15; tarsus, 20.5; middle toe, 17–18 (17.5).[a]

Adult female and young male.—According to Doctor Sclater these are not distinguishable from those of *C. cayana* (see p. 781).

Eastern Panama (line of Panama Railway) to central Colombia (Bogota).

Ampelis nattereri Boissonneau, Rev. Zool., iii, Jan., 1840, 2 (Bogota, Colombia).

[*Cotinga*] *nattereri* Bonaparte, Consp. Av., i, 1850, 175.

Cotinga nattereri Sclater, Proc. Zool. Soc. Lond., 1855, 152 (Bogota); Cat. Birds Brit. Mus., xiv, 1888, 385.

C[*otinga*] *nattereri* Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1890, 140, footnote (crit.).

Cotinga amabilis (not of Gould) Lawrence, Ann. Lyc. N. Y., vii, 1862, 473 (line of Panama Railway).

Cotinga ridgwayi (not of Zeledon) Sclater, Cat. Birds Brit. Mus., xiv, 1888, 384, part (spec. c. from "probably Panama," according to Salvin and Godman).

Genus CARPODECTES Salvin.

Carpodectes Salvin, Proc. Zool. Soc. Lond., 1864 (pub. Apr. 1, 1865), 583. (Type, *C. nitidus* Salvin.)

Medium-sized Cotingidæ (wing about 120–145 mm.) with rictal bristles obsolete, the adult males white, faintly shaded with bluish gray on upper parts (one species with black at tip of primaries and middle rectrices), females and young males plain brownish gray above, the wings blackish with broad white edgings.

Bill about half as long as head, rather compressed, its depth at nostrils equal to its width at same point; culmen distinctly but rather broadly ridged, strongly and regularly curved from base, the tip of maxilla moderately uncinate; gonys longer than mandibular rami, faintly convex; maxillary tomium rather strongly concave, distinctly notched subterminally. Nostril rather large, broadly oval, its posterior edge covered by the short but dense feathering of laterofrontal antiæ. Rictal bristles obsolete. Wing rather long, with longest primaries exceeding secondaries by length of tarsus, or more; sixth to ninth primaries longest and nearly equal, the tenth equal to fourth or a little shorter, none of them narrowed or attenuated terminally. Tail less than half as long as wing, even, the rectrices broad,

[a] Two specimens—one from Bogota, Colombia, the other from line of the Panama Railway.

There are certain differences of coloration between these two specimens which may, possibly, indicate that they represent two forms; but the one from Bogota is in partially immature plumage, and besides a considerable greater number of specimens would be necessary to decide the point.

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with broadly rounded tip. Tarsus shorter than commissure, stout, its scutellation typically pycnaspidean; middle toe, with claw, about as long as tarsus, its basal phalanx wholly adherent to outer toe, united for most of its length to inner toe; outer toe (without claw) reaching about to base of terminal phalanx of middle toe, the inner decidedly shorter; hallux, without claw, slightly shorter than inner toe but much stouter, its basal pad (tylarus) much expanded and flattened, with extruded inner edge continuous with that of inner toe; claws rather short and blunt, but well curved and stout.

Plumage and coloration.—Contour feathers broad and blended; feathers of lores and frontal antiæ short and dense, the former overlapping rictus; rictal bristles absent and no bristly points developed except a few indistinct ones on chin and anterior portion of laterofrontal antiæ. Adult males immaculate white, the upper parts delicately shaded with pale bluish gray, especially on pileum (one species with black at tip of primaries and middle rectrices); adult females and young males plain deep brownish gray above, the wings dusky or blackish, relieved by broad white edgings, the under parts paler gray, fading into whitish posteriorly.

Nidification.—Unknown.

Range.—Honduras to western Colombia. (Three species.)

KEY TO THE SPECIES OF CARPODECTES.

a. General color pure white, the upper surface tinged, more or less, with pale bluish gray. (Adult males.)

b. No black on primaries nor rectrices; smaller (wing 134–146 mm.).

c. Bill bluish gray (black on culmen); back, scapulars, rump, and tail more strongly tinged with bluish gray; primaries and primary coverts pale bluish gray. (Eastern Costa Rica to Honduras.)

Carpodectes nitidus, adult male (p. 788)

cc. Bill yellow, with black line along culmen; back, scapulars, rump, and tail more faintly tinged with bluish gray; primaries and primary coverts pure white. (Southwestern Costa Rica and western Panama.)

Carpodectes antoniæ, adult male (p. 789)

bb. Primaries and four middle rectrices with a terminal black spot; larger (wing 161.5–171 mm.). (Western Colombia.)

Carpodectes hopkei, adult male (extralimital)[a]

aa. Above brownish gray with broad white edgings on secondaries and larger wing-coverts; beneath paler gray anteriorly, white posteriorly. (Adult females and young.)

b. Smaller (wing 122–134 mm.); lores pale gray.

c. Bill bluish (blackish on culmen).

Carpodectes nitidus, adult female and young (p. 788)

cc. Bill yellowish (blackish on culmen)

Carpodectes antoniæ, adult female and young (p. 789)

bb. Larger (wing 145–152 mm.); lores white.

Carpodectes hopkei, adult female and young (extralimital).

[a] *Carpodectes hopkei* Berlepsch, Orn. Monatsb., v. Nov., 1897, 174 (San José, Rio Dagua, w. Colombia; coll. Count von Berlepsch).

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CARPODECTES NITIDUS Salvin.

SNOWY COTINGA.

Adult male.—Pileum delicate pale bluish gray (nearly lavender gray), fading on back, scapulars, rump, upper tail-coverts, tail, primaries, primary coverts, and alula into much paler gray (paler than pearl gray); rest of plumage pure white, the wing-coverts and secondaries very faintly tinged with pale bluish gray; bill bluish gray (light bluish gray or grayish blue in life), becoming black on culmen; iris brown; legs and feet grayish black; length (skins), 192–222 (206); wing, 135–146.5 (140.7); tail, 63.5–71 (66.8); exposed culmen, 17–20 (18.4); tarsus, 23–26 (24.7); middle toe, 19–21 (20.2).[a]

Adult female.—Above plain deep brownish gray (mouse gray, the pileum more slate-gray or dark plumbeous); middle wing-coverts with outer webs broadly tipped and edged with white or grayish white; greater coverts, alula, primary coverts, and remiges blackish slate, the greater coverts and secondaries broadly and conspicuously edged with white; sides of head paler gray than pileum, inclosing a distinct orbital ring of white; throat, chest, and sides of breast plain pale gray (about no. 8), fading into white on chin, median portion of breast, abdomen, flanks, and under tail-coverts; axillars and under wing-coverts pure white; inner webs of remiges broadly edged with white; bill, iris, legs, and feet, as in adult male; length (skins), 183–215 (198); wing, 122–134 (130.4); tail, 57–67 (63); exposed culmen, 16.5–18 (17.4); tarsus, 21.5–25 (23.9); middle toe, 18–20.5 (19.3).[b]

Young male.—Similar to the adult female, but gray of upper parts paler and (except on pileum) browner (nearly drab-gray); white edgings of wing-coverts and secondaries much broader; sides of head (including lores) and under parts white, the auricular region tinged with brownish gray, the chest faintly tinged with very pale bluish gray. (Older individuals have more white on upper parts, sometimes resembling adult males, except that the remiges are partially, the primaries sometimes wholly, dusky.)

Atlantic slope of Costa Rica (Tucurriqui; San Carlos; Pacuare; Carrillo; Bonilla; Guapiles; Guacimo; Rio Frio), Nicaragua (Greytown; Rio Escondido), and Honduras (Ceiba).

Carpodectes nitidus Salvin, Proc. Zool. Soc. Lond., 1864 (pub. Apr. 1, 1865). 583, pl. 36 (Tucurriqui, Costa Rica; coll. Salvin and Godman); Ibis, 1872,

[a] Fifteen specimens.

[b] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Costa Rica (8) and Nicaragua (2)....	140.7	66.4	18.4	24.8	20.1
Five adult males from Honduras (Ceiba).....	140.8	67.5	18.2	24.5	20.3

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313 (Greytown, Nicaragua).—LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 183; (Greytown, Nicaragua); ix, 1868, 117 (Tucurriqui, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 310 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 65 (San Carlos, Costa Rica; descr. female).—RIDGWAY, Proc. U. S. Nat. Mus., i, 1878, 255 (Pacuare, Costa Rica; descr. immature male); xi, 1888, 544 (Pacuare; descr. immature male); Condor, vii, 1905, 156, in text (Bonilla, Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 389 (Tucurriqui, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 140, pl. 42 (adult male and female).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 509 (Rio Frio, Costa Rica; Rio Escondido, Nicaragua; habits).—BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 150 (Ceiba, Honduras).

[*Carpodectes*] *nitidus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 58.—SHARPE, Hand-list, iii, 1901, 174.

[*Cotinga*] *nitidus* GRAY, Hand-list, i, 1869, 371, no. 5626.

CARPODECTES ANTONIÆ Zeledon.

ANTONIA'S COTINGA.

Similar to *C. nitidus*, but bill yellow instead of bluish gray and adult male with upper parts much paler gray, with wings wholly pure white.

Adult male.—General color pure white, the back, scapulars, rump, upper tail-coverts and tail delicately shaded with pale bluish gray (pearl gray), the pileum deeper bluish gray (lavender gray); bill light yellow, with a broad and sharply defined line of black along culmen; iris dark brown; legs and feet grayish black; length (skins), 187–207 (196); wing, 137–145.5 (141.2); tail, 61.5–66.5 (64.1); exposed culmen, 18–18.5 (18.2); tarsus, 23–24.5 (23.9); middle toe, 19–20 (19.4).[a]

Adult female.—Above plain deep brownish gray (nearly mouse gray, the pileum less brownish); larger wing-coverts and secondaries blackish slate, broadly and conspicuously edged with white; primaries, primary-coverts, and alula wholly blackish slate; tail deep brownish slate; sides of head (including lores) pale gray, inclosing a distinct white orbital ring; throat, chest, breast, and sides pale gray (nearly no. 8) fading into white on chin, abdomen, flanks, and under tail-coverts; axillars and under wing-coverts pure white; inner webs of remiges broadly edged with white; bill yellowish horn color, becoming more distinctly yellowish basally, the culmen black or dusky; iris, legs, and feet as in adult male; length (skins) 189–190 (189.5); wing, 124–129 (126.5); tail, 57.5–62 (59.7); exposed culmen, 16.5–18.5 (17.5); tarsus, 22.5; middle toe, 18.[b]

[a] Six specimens.

[b] Two specimens, from Costa Rica.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Costa Rica	139.2	63.1	18.1	23.6	19.2
Two adult males from Panama (Pedregal, Chiriqui)	145.2	66	17.5	22.5	18

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Pacific slope of Costa Rica (Pirris; Pozo Azul de Pirris; Pigres) and western Panama (Pedregal).

Carpodectes antoniæ "Zeledon, MS." RIDGWAY, Ibis, 5th ser., ii, Jan., 1884, 27, 28, pl. 2 (Pirris, s. w. Costa Rica: coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., vi, 1883, 410; x, 1887, 20 (descr. adult female); Condor, vii, 1905, 155, in text (Pigres, s. w. Costa Rica).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 389.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 141.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 41 (Pedregal, Chiriqui, Panama).

[*Carpodectes*] *antoniæ* SHARPE, Hand-list, iii, 1901, 175.

Genus MICROTRICCUS Ridgway.

Microtriccus[a] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210. (Type, *Tyrannulus semiflavus* Sclater.)

Very small Cotingidæ (wing less than 50 mm.) with tail much less than one-third (but little more than one-half) as long as wing, tarsal envelope essentially pycnaspidean, bill very small and stout (less than half as long as head), its depth at frontal antiæ equal to its width at same point.

Bill small and stout, as deep as broad at frontal antiæ, less than half as long as head; exposed culmen shorter than middle toe without claw, sharply ridged, strongly curved almost from base, the tip of maxilla very minutely uncinate; gonys longer than mandibular rami, nearly straight, ascending terminally, its base somewhat prominent; maxillary tomium very faintly sinuated, minutely notched subterminally. Nostril exposed, very small, circular, or broadly oval, near center of nasal fossæ, entirely surrounded by membrane. Rictal bristles obvious on close examination, but very small; feathers of chin and frontal antiæ with small bristly tips. Wing moderate, rather pointed, the longest primaries exceeding secondaries by about length of exposed culmen; seventh, eighth, and ninth primaries longest and about equal, the tenth (outermost) equal to or slightly longer than fifth. Tail between one-half and two-thirds as long as wing, slightly double-rounded or emarginate (the lateral rectrices decidedly longer than middle pair), the rectrices rather broad, with rounded tip. Tarsus less than one-third as long as wing, rather stout, its scutellation essentially pycnaspidean, the acrotarsium extending only about halfway across outer side of tarsus, the planta tarsi for the most part nonscutellate, but on its lower portion showing numerous small but indistinct scutella; middle toe, without claw, between one-half and two-thirds as long as tarsus, its basal phalanx entirely united to outer toe, almost wholly united to inner toe; outer toe, without claw, reaching to or slightly beyond middle of subterminal phalanx of middle toe, the inner toe slightly but decidedly shorter; hallux about as long as inner toe, much stouter, its claw

[a] *Μικρός*, small; *τρίκκος*, a small bird.

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shorter than the digit; all the claws rather strongly curved, sharp, compressed.

Coloration.—Above plain olive-green passing into sooty on pileum; a conspicuous white supraloral stripe extending to above eye; under parts yellow, tinged with olive on chest and sides.

Nidification.—(Unknown?)

Range.—Southern Mexico to Panama. (Two species.)

KEY TO THE SPECIES OF MICROTRICCUS.

a. Pileum slate color; white superciliary stripe extending nearly to end of auricular region; whole auricular region dusky olive. (Southeastern Mexico to Costa Rica.)
Microtriccus semiflavus (p. 791)

aa. Pileum dark sooty brown; white superciliary stripe not extending beyond middle of auricular region; auricular region greenish olive, dusky only near posterior angle of eye. (Costa Rica to northwestern Ecuador.)
Microtriccus brunneicapillus (p. 792)

MICROTRICCUS SEMIFLAVUS (Sclater and Salvin).

GRAY-CAPPED TYRANNULET.

Adults (*sexes alike*).—Pileum uniform slate color; rest of upper parts plain olive-green, the inner webs of rectrices, remiges, and greater wing-coverts dusky grayish brown; a white superciliary stripe, extending from nostrils to near end of auricular region; loral region dusky or slate color; suborbital and auricular regions deep greenish olive, becoming dusky on upper portion, especially next to posterior angle of eye; malar region and under parts canary yellow, narrowly and indistinctly streaked with olive laterally, at least on sides of breast; axillars and under wing-coverts sulphur yellow; inner webs of remiges edged with dull yellowish white; maxilla dusky horn color or brownish black; mandible similar but more grayish basally; legs and feet grayish dusky in dried skins (bluish gray in life?).

Adult male.—Length (skins), 74–82 (78); wing, 43.5–45.5 (44.8); tail, 25–26.5 (25.8); exposed culmen, 7.5–8 (7.7); tarsus, 13.5–14 (13.7); middle toe, 7.5–8.5 (8).[a]

Adult female.—Length (skins), 72–77 (75); wing, 44–45 (44.3); tail, 23–24.5 (23.7); exposed culmen, 7.5–8.5 (8.2); tarsus, 13–13.5 (13.2); middle toe, 7–8 (7.7).[a]

[a] Three specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Vera Cruz	43.5	25	7.5	13.5	8.5
Two adult males from Nicaragua and Costa Rica	45.5	26.3	8	13.8	7.8
FEMALES.					
One adult female from Vera Cruz	45	24.5	8	13	7
One adult female from Chiapas	44	23	8	13	8
One adult female from Costa Rica	44	23.5	8.5	13.5	8

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Southern Mexico, in States of Vera Cruz (Pasa Nueva; Buena Vista; Santa Lucrecia), Tabasco (Teapa), and Chiapas (Palenque); highlands of Guatemala (Choctum, Vera Paz); Nicaragua (San Juan; Greytown; Rio Escondido); Costa Rica (Pozo Azul).

Tyrannulus semiflavus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1860, 300 (Choctum, Vera Paz, Guatemala; coll. Salvin and Godman); Ibis, 1860, 400 (Choctum).—SCLATER, Cat. Am. Birds, 1862, 215 (Vera Paz); Cat. Birds Brit. Mus., xiv, 1888, 129.—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 182 (Greytown, Nicaragua).—SALVIN, Ibis, 1872, 313 (Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 32, pl. 36, fig. 1 (Teapa, Tabasco, s. Mexico, etc.).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 505 (Rio Escondido, Nicaragua).

[*Tyrannulus*] *semiflavus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48.—SHARPE, Hand-list, iii, 1901, 121.

[*Elainia*] *semiflava* (not *Elainea semiflava* Lawrence, 1865) GRAY, Hand-list, i, 1869, 356, no. 5409.

Microtriccus semiflavus RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210.

Ornithion semiflavum BERLEPSCH, Proc. Fourth Internat. Orn. Cong., Feb., 1907, 492.

MICROTRICCUS BRUNNEICAPILLUS (Lawrence).

BROWN-CAPPED TYRANNULET.

Similar to *M. semiflavus*, but pileum sooty brown instead of slate color, white superciliary stripe shorter (extending scarcely beyond middle of auricular region) and auricular region lighter olive-greenish.

Adults (*sexes alike*).—Pileum uniform sooty brown (between sepia and clove brown); rest of upper parts plain olive-green, the rectrices, remiges, and greater wing-coverts dusky grayish brown edged with olive-green (very narrowly on primaries); a narrow superciliary stripe of white, extending to a little beyond eye or to about middle of auricular region; lores dusky grayish; auricular region and sides of neck olive-green or greenish olive, the former slightly but indistinctly darker along upper margin and next to posterior angle of eye; under parts canary yellow, tinged laterally with olive-green, the chest also tinged or obsoletely streaked with the same; axillars and under wing-coverts paler (sulphur or primrose) yellow; inner webs of remiges edged with dull yellowish white; bill brownish black or blackish horn color, the mandible more grayish basally; legs and feet dusky grayish in dried skins (bluish gray in life?).

Young.—Similar to adults, but pileum lighter brown (deep hair brown), back, etc., lighter and duller olive-green, and yellow of under parts paler (nearly primrose).

Adult male.—Length (skins), 77.5; wing, 44–44.5 (44.3); tail, 25.5–26.5 (26); exposed culmen, 8–9 (8.5); tarsus, 12.5–13.5 (13); middle toe, 7.5–8 (7.8).[a]

[a] Two specimens.

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Adult female.—Length (skins), 70–78 (75); wing, 41.5–46 (44.5); tail, 23.5–26.5 (25); exposed culmen, 7.5–9 (8.3); tarsus, 12.5–13.5 (13); middle toe, 7.8 (7.5).[a]

Costa Rica (Angostura; Jiménez); Panama (Lion Hill Station); northwestern Ecuador (Paramba).[b]

Tyrannulus brunneicapillus LAWRENCE, Ibis, Jan., 1862, 12 (Panama; coll. G. N. Lawrence); Ann. Lyc. N. Y., vii, 1862, 473 (Lion Hill, Panama R. R.), ix, 1868, 111 (Angostura, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Lion Hill; crit.)—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 129.—FRANTZIUS, Journ. für Orn., 1869, 307 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 32.

T[yrannulus] brunneicapillus SALVIN, Ibis, 1872, 314 (Costa Rica).

[*Tyrannulus*] *brunneicapillus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48.

[*Elainia*] *brunneicapilla* GRAY, Hand-list, 1869, 356, no. 5411.

Ornithion brunneicapillum HARTERT, Novit. Zool., v, 1898, 487 (Paramba, n. w. Ecuador; crit.).—BERLESCH, Proc. Fourth. Internat. Orn. Cong., 1907, 492.

[*Ornithion*] *brunneicapillum* SHARPE, Hand-list, iii, 1901, 120.

Microtriccus semiflavus brunneicapillus RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210.

Genus TYRANNULUS Vieillot.

Tyrannulus VIEILLOT, Analyse, 1816, 31. (Type, *Sylvia elata* Latham.)

Very small Cotingidæ (wing less than 55 mm.) with tail about four-fifths as long as wing, outer toe shorter than inner toe, basal phalanx of middle toe wholly united to outer and at least half united to inner toe, tarsal envelope essentially pycnaspidean, and with a bushy crest of bright yellow margined with dusky.

Bill very small, less than half as long as head, its width at frontal antiæ about equal to or slightly less than its depth at same point and equal to more than two-thirds the distance from nostril to tip of maxilla; exposed culmen shorter than middle, but longer than inner, toe without claw, distinctly ridged, straight for most of its length, gradually decurved terminally, the tip of maxilla not strongly uncinate; gonys longer than mandibular rami, slightly convex; maxillary tomium very faintly sinuated, distinctly but minutely notched subterminally. Nostril exposed, very small, circular, near center of nasal fossæ, wholly surrounded by membrane. Rictal bristles obvious but small, the feathers of chin and frontal antiæ with small bristly points. Wing moderate, rounded, the longest primaries exceeding secondaries by much more than length of exposed culmen but by less than length of middle toe with claw; seventh or seventh and eighth primaries longest, ninth equal to or longer than sixth, tenth (outermost) about equal to fourth. Tail about four-fifths as long as wing, even or very slightly double-rounded, the rectrices rather broad and not wider terminally than basally. Tarsus about

[a] Three specimens. [b] According to Hartert (Novit. Zool., v, 1898, 487).

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one-fourth as long as wing, decidedly less than twice as long as middle toe without claw, its scutellation pycnaspidean, the acrotarsium extending about two-thirds of the way across outer side, the planta tarsi occupying whole posterior side and posterior third (approximately) of outer and inner sides, and covered with small, indistinct, irregularly hexagonal scutella; basal phalanx of middle toe wholly united to outer toe, about half united to inner toe; outer toe, without claw, reaching only to slightly beyond second joint of middle toe, the inner toe decidedly longer, reaching, without claw, to middle of subterminal phalanx of middle toe; hallux shorter than inner toe, not conspicuously stouter, its claw much shorter than the digit; all the claws moderately curved, sharp, and compressed.

Coloration.—Above plain olive, the pileum dusky laterally, bright yellow centrally; wings dusky, the middle and greater coverts tipped with pale yellow or yellowish white, the secondaries edged with the same; below pale yellow tinged with olive on chest and sides, the throat light grayish.

Nidification.—(Unknown?)

Range.—Panama to Amazon Valley. (Monotypic.)

KEY TO THE SUBSPECIES OF TYRANNULUS ELATUS.

a. Darker above, with whitish wing-markings narrower; anterior under parts more strongly grayish, posterior under parts paler yellow. (Cayenne.) **Tyrannulus elatus elatus** (extralimital).[a]

aa. Paler above, with whitish wing-markings broader; anterior under parts more faintly grayish, posterior under parts deeper yellow. (Panama to Lower Amazon Valley.)..... **Tyrannulus elatus reguloides** (p. 794)

TYRANNULUS ELATUS REGULOIDES (Ridgway).

BIKER'S YELLOW-CROWNED TYRANNULET.

Similar to *T. e. elatus* but paler olive-green above, whitish wing-markings broader, and yellow of posterior under parts deeper.

Adults (*sexes alike*).—Pileum mostly blackish or dusky, passing into slate color on forehead and slate-gray on superciliary region and hindneck, the central portion occupied by a large, mostly concealed, crown-patch of lemon or canary (sometimes slightly orange) yellow; back, scapulars, rump, and upper tail-coverts plain olive-green or grayish olive-green; tail deep grayish brown, narrowly tipped with pale olive or dull olive-yellowish, the outer webs of rectrices edged with light olive-greenish; wings dusky, the lesser coverts margined

[a] [*Sylvia*] *elata* Latham, Index Orn., ii, 1790, 549 (Cayenne; based on *Le Roitelet mesange* Buffon, Hist. Nat. Ois., v, 375; *Mesange huppée de Cayenne* Daubenton, Pl. Enl., pl. 708, fig. 2).—*Tyrannulus elatus* Vieillot, Nouv. Dict. d'Hist., xxxv, 1819, 94; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 128, part (Oyapok, Cayenne).—*E[lania] elata* Gray, Gen. Birds, iii, 1849, p. 30*b*.—[*Elainia*] *elata* Gray, Hand-list, i, 1869, 356, no. 5408.

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with dull olive-green or grayish olive, the middle and greater coverts tipped with pale yellow or yellowish white (forming two distinct bands), the secondaries edged (except basally) with the same, the primaries narrowly edged with light olive; an indistinct superciliary streak of pale gray (grayish white anteriorly); a narrow loral streak of dusky; suborbital and auricular regions pale gray or grayish white, usually more or less tinged with pale yellow, fading gradually into grayish white (usually more or less tinged with pale yellow) on chin and throat; chest light yellowish olive, fading into olive-yellow on breast and sides, this into light yellow (between straw and sulphur) on abdomen, anal region, and under tail-coverts; axillars and under wing-coverts light yellow (between straw and sulphur); inner webs of remiges broadly edged with primrose yellow or yellowish white; bill brownish black or dusky, the mandible slightly more brownish basally; legs and feet grayish dusky (bluish gray in life?).

Adult male.—Length (skins), 94–103 (97); wing, 47.5–52 (49.8); tail, 39–41 (40.2); exposed culmen, 7.5–8 (7.7); tarsus, 12.5–13.5 (13); middle toe, 7–8 (7.3).[a]

Adult female.—Length (skins), 93–101 (96); wing, 47.5–50 (49); tail, 39–40.5 (39.7); exposed culmen, 7.5–8 (7.7); tarsus, 12–13 (12.13); middle toe, 7.[a]

[a] Three specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male (*T. elatus elatus*) from Cayenne	53.5	42.5	8	14.5	7.5
One adult male from Colombia (Bonda, Santa Marta)	52	41	8	13.5	8
Two adult males ("*Tyrannulus reguloides panamensis*") from Panama	48.7	39.7	7.5	12.7	7
FEMALES.					
One adult female from Colombia (Bonda)	50	39.5	8	13	7
Two adult females (*T. r. panamensis*) from Panama	48.5	39.7	7.5	12	7
SEX UNKNOWN.					
Four adults from Colombia (Bonda and Bogota)	53	41.4	7	12.8	7.2
One adult (type of *T. reguloides*) from Diamantina, Brazil	45	36	7	11.5	7

I am unable to distinguish Panama specimens from the type of *T. reguloides* (from Diamantina, Lower Amazon) as to coloration, Colombian specimens being, so far as I am able to see, precisely similar. It is true the Panama birds are larger than the type of *T. reguloides:* but if size alone is to be made a criterion the Colombian specimens must be separated, for they are still larger. On the whole, therefore, it seems best, at least until a very much better series of specimens can be studied, to consider all, except the decidedly darker and easily distinguished Cayenne bird, as representing a single form, which varies locally in dimensions. I would not be surprised if a satisfactory series from Cayenne should show that there is in reality no occasion for subdividing the species at all, though the single Cayenne specimen examined by me is certainly very different in coloration from any other specimen I have seen.

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Panama (Panama City; Sabana de Panama; Paraiso Station; Divala; Davíd), and southward through Colombia (Bonda, Santa Marta; Remedios, Antioquia; Bucaramanga; Bogotá) to northwestern Ecuador (Pambilár; San Javier), eastern Peru (upper Ucayali; Chyavetas; Pebas; Yurimaguas; Sarayacu), Amazon Valley (Hyutaripa near Falls of Rio Purus; Diamantina; Santarem) and Venezuela (Nericagua; Altagracia; Maipures; Suapure).[a]

Tyrannulus elatus (not *Sylvia elata* Latham) SCLATER, Proc. Zool. Soc. Lond., 1855, 150 (Bogotá, Colombia); 1856, 141 (David, Panama); Cat. Am. Birds, 1862, 215 (Brazil; Bogotá, Colombia); Cat. Birds Brit. Mus., xiv, 188, 1288, part (Brazil; Amazonia; Pebas, e. Peru; Bogotá, Remedios, and Bucaramanga, Colombia; Paraiso Station, Panama).—BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 483.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 188 (upper Ucayali, e. Peru); 1867, 147, 751 (Huallaga and Ucayali rivers, e. Peru); 1873, 279 (upper Ucayali, Chyavetas, and Pebas, e. Peru); 1879, 512 (Colombia)—SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (Veragua).—PELZELN, Orn. Bras., ii. Abth., 1869, 106; iv. Abth., 1870, 424.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1882, 19 (Yurimaguas, e. Peru); Orn. du Pérou, ii, 1884, 256.—BERLEPSCH, Journ. für Orn., 1884, 300 (Bucaramanga, Colombia; crit.); 1889, 302 (Sarayacu, Yurimaguas, etc., e. Peru).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 31, part (David and Paraiso Station, Panama; Colombia; Amazon Valley; Brazil?).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, no. 362, 1899, 8 (Balzar, w. Ecuador; crit.).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 148 (Bonda, Santa Marta, Colombia).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 42 (Nericagua, Altagracia, Maipures, and Suapure, Venezuela).

T[yrannulus] elatus HARTLAUB, Syst. Verz., 1844, 35 (Brazil).—CABANIS and HEINE, Mus. Hein., ii, 1859, 58 (Brazil).

[*Tyrannulus*] *elatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 48, part.—SHARPE, Hand-list, iii, 1901, 120, part.

Pipra elata SPIX, Av. Bras., ii, 1825, 7, pl. 8*a*. fig. 2.

E[lania] elata GRAY, Gen. Birds, iii, 1849, App. p. 30*b*.

[*Elainia*] *elata* GRAY, Hand-list, i, 1869, 356, no. 5408.

Tyranniscus elatus SALVIN, Proc. Zool. Soc. Lond., 1867, 147 (David, Panama).

Tyrannulus elata HARTERT, Novit. Zool., ix, 1902, 607 (Pambilár and San Javier, n. w. Ecuador).

Tyrannulus reguloides RIDGWAY, Proc. U. S. Nat. Mus., x, sig. 33, Aug. 6, 1888, 521 (Diamantina, near Santarem, lower Amazon Valley; coll. C. B. Riker; type now in coll. U. S. Nat. Mus.).—CHAPMAN, Auk, vii, 1890, 270 (Santarem).—BANGS, Auk, xviii, 1901, 362 (Divala, Panama; crit.).

Tyrannulus reguloides panamensis THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, Jan., 1906, 218 (Sabana de Panama; coll. E. A. and O. Bangs).

Genus IDIOTRICCUS Ridgway.

Idiotriccus[b] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210. (Type, *Pogonotriccus zeledoni* Lawrence.)

Superficially resembling the Tyrannine genus *Pogonotriccus* Cabanis and Heine, but tarsal envelope pycnaspidean, with scutella on lower portion of both acrotarsium and planta tarsi roughened and subtu-

[a] Venezuelan specimens not seen by me. [b] Ἴδιος, distinct; τρίκκος, a small bird.

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berculate; bill broader basally and more depressed; nostril surrounded by membrane; bristles of frontal antiæ, rictus, and chin less developed.

Bill small (less than half as long as head), depressed, and triangular, its width at frontal antiæ about equal to distance from nostril to tip of maxilla and about twice its depth at same point; gonys about as long as mandibular rami. Nostril rather large, longitudinally oval, surrounded by membrane, this about equally wide in front, above, and below. Rictal bristles and bristly tips of latero-frontal plumules and those of chin moderately developed. Wing rather long and pointed, the primaries exceeding secondaries by about the length of tarsus; ninth and eighth primaries longest, the seventh but little shorter, the outermost (tenth) nearly as long as sixth. Tail about as long as distance from bend of wing to tip of secondaries or slightly shorter, faintly emarginate. Tarsus moderately long (about two-ninths as long as wing), slender, its scutellation ultra-pycnaspidean, the planta tarsi, except on extreme upper portion, covered with numerous small, approximately diamond- or lozenge-shaped scutella, which become gradually more distinct on the lower portion where roughened and subtuberculate, the scutella of the acrotarsium with lower margins elevated, especially on lower part of tarsus, where the scutella are more irregular, more or less reduced in size, and roughened; middle toe, with claw, decidedly shorter than tarsus, its basal phalanx united to outer toe for much the greater part of its length, to inner toe for about half its length; outer toe (without claw) reaching to middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux about as long as outer toe, but much stouter, its claw decidedly shorter than the digit; all the claws rather strongly curved and sharp, much compressed. Head without crest.

Coloration.—Pileum plain slate color; back, etc., plain olive-green; wings dusky, with olive-yellowish edgings and crossed by two bands of pale olive-yellow or yellowish white; under parts pale yellowish, tinged with olive on chest and passing into white on throat; a white superciliary streak.

Nidification.—(Unknown.)

Range.—Costa Rica. (Monotypic?)

IDIOTRICCUS ZELEDONI (Lawrence).

ZELDON'S TYRANNULET.

Adult male.—Pileum and hindneck plain slate color, the former margined below by a white superciliary streak, broadest anteriorly where involving greater part of loral region; an indistinct spot of dusky grayish immediately in front of eye on lower posterior portion of loral region; a rather broad postocular streak of slate color, confluent with color of hindneck; suborbital region and lower portion of

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auricular region whitish, faintly tinged with pale olive-yellow, the suborbital and malar regions with transverse flecks or indistinct bars of slate color; chin and throat grayish white; back, scapulars, rump, upper tail-coverts, and lesser wing-coverts plain, rather light, olive-green; tail light hair brown, the rectrices edged with light olive-green; middle wing-coverts dusky hair brown, broadly tipped, across both webs, with whitish, tinged with olive-yellowish; greater coverts and remiges dusky, the former narrowly edged with light olive-grayish, their outer webs tipped with whitish, the secondaries edged with yellowish olive-green, becoming whitish on the three innermost (tertials); under parts of body, under wing-coverts, and under tail-coverts pale yellow (between sulphur and primrose), the chest and sides of breast shaded with pale olive; maxilla dark brown, mandible pale brownish or brownish white (in dried skin); iris brown;[a] legs and feet dusky (in dried skin); length (skin), about 110; wing, 62.5; tail, 48; exposed culmen, about 7.5;[b] tarsus, 14; middle toe, without claw, 8.[c]

Adult female.—Similar to the male (as described above), but back brighter and more uniform olive-green, rather abruptly defined against the slate color of pileum and hindneck; lighter wing-markings sulphur yellow instead of whitish (except in one specimen); under parts of body slightly deeper yellow (more nearly sulphur yellow), the chest and sides of breast indistinctly streaked with light olive; length (skins), 106–112 (108); wing, 59.5–61.5 (60.7); tail, 44.5–46 (45.1); exposed culmen, 8.5–9 (8.7); tarsus, 13.5–15 (14.4); middle toe, 8.5–9 (8.9).[d]

Costa Rica (Barranca; Dota) and northwestern Panama (Boquete, Chiriqui).

Pogonotriccus? zeledoni LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., ix, 1868, 144 (Dota, Costa Rica; coll. U. S. Nat. Mus.).

Pogonotriccus zeledoni ZELEDON, Proc. U. S. Nat. Mus., viii, 1885, 108.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 19.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 35 (Boquete, Panama, 4,000 to 4,500 ft.).

[*Pogonotriccus*] *zeledoni* SHARPE, Hand-list, iii, 1901, 111.

Idiotriccus zeledoni RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210.

(??) *Pogonotriccus ophthalmicus* TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 135 (Amable Maria, centr. Peru; coll. Mus. Warsaw), 535 (Amable Maria and Ropaybamba, centr. Peru); 1882, 19 (Huambo, n. e. Peru); Orn. du Pérou, ii, 1884, 250.—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 89 (Ecuador).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 98 (Ropaybamba and Huambo, Peru; Machay, Ecuador).

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[a] J. Carmiol, manuscript.

[b] Tip of bill broken off.

[c] One specimen (the type).

[d] Four specimens (three from Boquete, Panama, one from Barranca, Costa Rica.) In all probability there is in reality no sexual difference of coloration in this species, the single male example examined being evidently in older plumage than the females, and therefore somewhat faded.

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Genus ELAINOPSIS Ridgway.

Elainopsis [a] Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210. (Type, *Elainea elegans* Pelzeln, = *Muscicapara gaimardii* D'Orbigny ?)

Superficially resembling the Tyrannine genera *Elaenia* Sundevall and *Myiopagis* Salvin and Godman, but tarsal envelope pycnaspidean and basal phalanx of middle toe wholly united to outer toe.

Bill much shorter than head, narrowly conoid or wedge-shaped, its width at frontal antiæ slightly less than half the length of exposed culmen but decidedly greater than its depth at same point; exposed culmen longer than middle toe without claw, straight for basal half or more, then gradually decurved to the distinctly but rather minutely uncinate tip; gonys decidedly shorter than distance from nostril to tip of maxilla, slightly but distinctly convex. Nostril exposed, small, roundish or longitudinally oval, surrounded by membrane except for anterior half. Rictal bristles small and slender, but distinct. Wing moderate, rounded, the longest primaries exceeding distal secondaries by about length of exposed culmen; seventh and eighth, or seventh, eighth, and ninth, primaries longest, the tenth (outermost) about equal to fourth. Tail nearly as long as wing (longer than distance from bend of wing to end of secondaries), emarginate or double-rounded, the rectrices widening slightly terminally, with tip broadly rounded. Tarsus nearly twice as long as middle toe without claw (less than one-third as long as wing), its scutellation quasi-pycnaspidean, the acrotarsium extending only about halfway across outer side of tarsus, the planta tarsi covered with nonscutellate integument except along the posterior median ridge where showing slight granulations or small and indistinct papillæ; outer toe (without claw) decidedly shorter than middle toe, the inner toe decidedly shorter than outer; basal phalanx of middle toe almost wholly united to outer toe, about half adherent to inner toe; hallux (without claw) about as long as inner toe, but much stouter, its claw well developed but shorter than the digit.

Coloration.—Olive above, becoming darker on pileum, which has a median patch (more or less concealed) of white or pale yellow; wing dusky with middle and greater wing-coverts broadly tipped or terminally edged with light olive-yellowish, the secondaries edged with same; under parts light yellow, passing into light olive on chest and sides of breast, this into pale grayish on throat and chin. Young without white or yellow on crown, the general color of pileum soft grayish brown.

Nidification.—Unknown.

Range.—Panama to southern Brazil. (Monotypic? [b])

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[a] *Elainea*, a genus of Tyrannidæ; + ὄψις, aspect.

[b] Whether any other species commonly referred to *Elaenia* or *Myiopagis* belongs in *Elainopsis* or not, I do not know; certainly none of those which I have examined do.

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ELAINOPSIS GAIMARDII MACILVAINII (Lawrence).

MACILVAINE'S FLYCATCHER.

Similar to *E. g. gaimardii*,[a] but crown-patch light canary yellow instead of white or yellowish white.

Adult.—Pileum dusky grayish brown, with a large median patch (partly concealed) of light canary yellow, some, at least, of the feathers of this yellow crown-patch with a terminal guttate mark or streak of dusky; hindneck deep olive, passing on back, scapulars, lesser wing-coverts, rump, and upper tail-coverts into lighter and slightly more greenish olive; tail deep hair-brown or nearly olive, with light greenish olive edgings; wings dusky, the middle coverts broadly (but not sharply) tipped with pale yellowish olive or dull light olive-yellowish, the greater coverts edged (more broadly terminally) with the same, the secondaries edged (except basally) with olive-yellowish, the primaries edged with light olive; an indistinct superciliary stripe

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Possibly *Elainea flavivertex* Sclater (Proc. Zool. Soc. Lond., 1887, 49; Cat. Birds Brit. Mus., xiv, 151), from eastern Peru, does, since this is compared with *E. gaimardii*, from which it is said to differ in the bright yellow crown-patch and darker coloration of the under parts. *Tyrannula caniceps* Swainson (Birds Brazil, pl. 49; *Elainea caniceps* Pelzeln, Orn. Bras., 1868, 107; Sclater, Cat. Birds Brit. Mus., xiv, 151) is a *Myiopagis*.

[a] *Muscicapara gaimardii* D'Orbigny, Voy. Amer. Mérid., iv, Ois., pt. 3, 1839, 326 (Yuracares, Bolivia).—*Elainea gaimardi* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 150, part (excl. syn. *Elainea macilvainii* Lawrence and specimens from Panama).—*Elainea caniceps* (not *Tyrannula caniceps* Swainson) Sclater, Cat. Am. Birds, 1862, 217 (Cayenne).—*Elainea elegans* Pelzeln, Orn. Bras., ii. Abth., 1869, 179 (Engenho de Gama, Borba, and Maribatanas, Brazil; coll. Vienna Mus.).—*Myiopagis macilvainii* (not *Elainea macilvainii* Lawrence) Bangs, Proc. Biol. Soc. Wash., xii, 1898, 136 (Santa Marta, Colombia).

Tyrannula caniceps Swainson (*Elainea caniceps* Pelzeln), which has been synonymized with this species, is not even congeneric, being a member of the Tyrannine genus *Myiopagis*.

Specimens of this from the Santa Marta district of Colombia have the crown-patch appreciably tinged with yellow, but are not otherwise different, so far as I am able to see, from specimens taken in Venezuela, Trinidad, and Brazil. Measurements compare as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from southwestern Brazil (Chapada)	62.2	57.2	11	17.5	9
Five adult males from island of Trinidad	61.3	56.1	11.6	18.4	9.5
Four adult males from Venezuela	58	51.1	10.4	18.4	9.1
Four adult males from Colombia (Santa Marta)	63.3	58.4	11.2	18	9.1
FEMALES.					
One adult female from southwestern Brazil (Chapada)	59	50.5	10.5	17	8.5
One adult female from island of Trinidad	59.5	50.5	10.5	16.5	8.5
Three adult females from Colombia (Santa Marta)	59	53.8	10.3	17.2	9.3

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of dull olive-whitish extending but little behind eye; a dusky loral spot; suborbital and malar regions dull olive-whitish, flecked with grayish brown or dusky, the auricular region grayish olive with narrow shaft-streaks of dull yellowish white or olive-whitish; chin and throat pale gray, faintly tinged with olive; rest of under parts, including axillars and under wing-coverts, pale canary or deep primrose yellow, the chest and sides of breast pale yellowish olive; bill dusky brown or brownish black, the mandible paler brown basally; legs and feet dusky brown (in dried skins); length (skin), 121.5; wing, 57.5; tail, 52.5; exposed culmen, 10; tarsus, 17; middle toe, 8.5.[a]

Panama (Lion Hill Station); Caribbean coast district of Colombia (Cartagena)??

Elainea caniceps? (not *Tyrannula caniceps* Swainson) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 359 (Panama; crit.).—SALVIN, Ibis, 1874, 315.

Elainea macilvainii LAWRENCE,[b] Ann. Lyc. Nat. Hist. N. Y., x, Feb., 1871, 10 ("Venezuela;"[c] coll. G. N. Lawrence).

Myiopagis macilvaini SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1888, 27 (Lion Hill Station, Panama; Venezuela?).

[*Myiopagis*] *macilvaini* SHARPE, Hand-list, iii, 1901, 116.

Myiopagis macilvainii BANGS, Proc. Biol. Soc. Wash., xii, 1898, 136 (Santa Marta, Colombia).

Elainea gaimardi (not *Muscicapara gaimardii* D'Orbigny) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 150, part (Panama).

Genus ATTILA Lesson.

Attila LESSON, Traité d'Orn., 1831, 360. (Type, *A. brasiliensis* Lesson.)

Dasycephala SWAINSON, Fauna Bor.-Am., ii, 1831, 486. (Type, by elimination, *Muscicapa spadicea* Gmelin.)

Dasyopsis REICHENBACH, Av. Syst. Nat., 1850, pl. 66. (Type, *Attila brasiliensis* Lesson.)

Medium-sized Cotingidæ (wing about 80–105 mm.) with long, narrow, strongly uncinate, sometimes slightly recurved, bill, rather short and much rounded wing, and tarsus more than one-fourth as long as wing.

Bill about as long as head, narrow, its depth at nostrils much less than half as much as distance from nostril to tip of maxilla and about equal to its width at same point; culmen straight or sometimes

[a] One specimen, the type, said to be from Cartagena, Colombia, according to the label, but the original description says "Venezuela."

[b] What *Elainea macilvaini* Berlepsch and Hartert, Novit. Zool., ix, 1902, 44, from Suapure, Venezuela, can be, I do not know. It certainly can not be *E. macilvainii* of Lawrence, which is without doubt a local form of *E. gaimardii*, differing only, so far as I can see, in the decided yellow color of the crown patch, and hardly at all resembling a specimen of "*E.*" (i. e., *Myiopagis*) *caniceps* (Swainson) in the U. S. National Museum collection, from Sapucay, Paraguay, identified by Mr. Oberholser.

[c] The label of the type specimen, however, says "Carthagena" (i. e., Cartagena, Colombia).

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slightly concave in middle portion, but very strongly and abruptly decurved terminally, the tip of maxilla very strongly uncinate; gonys rather strongly convex, much longer than mandibular rami; basal width of interramal space much less than its length; maxillary tomium straight or faintly convex, distinctly notched subterminally; mandibular tomium straight or faintly concave, also more or less distinctly notched near tip. Nostril (partly hidden by antrorse latero-frontal bristles) rather large, broadly oval. Rictal bristles very strongly developed, the bristly points of loral and antrorse latero-frontal plumules scarcely less so. Wing rather short, rounded, the longest primaries exceeding secondaries by much less (sometimes by less than half) the length of exposed culmen; sixth, seventh, and eighth primaries longest, the tenth shorter than third (sometimes shorter than second). Tail about as long as wing to end of secondaries, even or slightly rounded or double-rounded, the rectrices rounded or slightly pointed at tip. Tarsus about as long as exposed culmen, more than one-fourth as long as wing, the planta tarsi with scutella only along the median or posterior line; middle toe, with claw, shorter than tarsus, adherent for greater part to outer toe, for about half its length to inner toe; outer toe, without claw, reaching to slightly beyond middle of subterminal phalanx of middle toe, the inner toe decidedly shorter; hallux about as long as inner toe, decidedly stouter, its basal pad (tylarus) moderately expanded and flattened.

Plumage and coloration.—Contour feathers broad, soft, and blended, those of the pileum elongated, narrower, and rather distinctly defined, forming, when erected, a bushy crest. Color more or less rufescent or tawny, sometimes with yellowish on rump or under parts (or both), the throat and chest sometimes streaked; sexes alike or nearly so.

Nidification.—(Unknown?)

Range.—Southern Mexico to southeastern Brazil, Bolivia, and western Ecuador. (About twenty-five species and subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF ATTILA.

a. Back and scapulars wholly olive-green; tips of greater and middle wing-coverts light olive or grayish.

b. Throat and chest narrowly streaked with yellow and without dusky streaks; sides and flanks merely tinged with yellow; wing-bands light brownish olive; olive-green of pileum and back brighter; tail more grayish brown; larger (wing of male 82.5, tail 64, exposed culmen 19, tarsus 23). (Lower Amazon Valley.)
Attila viridescens (extralimital).[a]

bb. Throat and chest broadly streaked with yellow, the olive streaks much darker, the throat with narrow blackish streaks; sides and flanks extensively and nearly uniformly yellow; wing-bands olive-whitish; olive-green of pileum and

[a] *Attila viridescens* Ridgway, Proc. U. S. Nat. Mus., x, sig. 33, Aug. 6, 1888, 522 (Diamantina Mts., near Santarem, Lower Amazon; coll. U. S. Nat. Mus.); Chapman, Auk, viii, 1891, 25 (Santarem; crit.).

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back grayer; tail more ocherous or buffy brown; larger (wing of male 92, tail 69, exposed culmen 22, tarsus 25). (Trinidad.).....**Attila wighti** (extralimital)[a]

aa. Back and scapulars more or less rufescent brown (sometimes greenish olive on upper back only); tips of greater and middle wing-coverts brown or rufescent.

b. Under parts clay color or brownish buff. (Colombia.)
Attila rufipectus (extralimital)[b]

bb. Under parts with more or less of white or yellow.

c. Bill smaller (exposed culmen 19–21 mm.) and more slender; pileum without streaks. (Colombia.).....**Attila parvirostris** (extralimital)[c]

cc. Bill larger (exposed culmen 21.5–27.5 mm.) and relatively stouter.

d. Whole chest uniform gray; upper back and hindneck olive-green, pileum deep gray. (Southeastern Costa Rica.).....**Attila tephrocephalus** (p. 804)

dd. Chest not gray, or else the gray much paler and more or less streaked; upper back and hindneck not olive-green or else pileum also olive-green. (*Attila citreopygus.*)

e. Averaging larger, with relatively smaller bill and feet; color of under parts darker, with more or less of yellow on chest and sides (rarely wholly yellow below) or else the chest more distinctly streaked; color of back, etc., darker or else more cinnamomeous.

f. General color of upper parts darker or browner; tail more or less extensively brown.

h. Back, etc., more olive-brown (sometimes becoming greenish olive or nearly olive-green on upper back, hindneck, and pileum); rump and upper tail-coverts purer yellow; tail darker (more extensively brown); smaller (male averaging wing 89.9, tail 72.4, exposed culmen 23.1, tarsus 24.4; adult female, wing 84.9, tail 67.4, exposed culmen 22.6; tarsus 24.5). (Panama to Nicaragua.).....**Attila citreopygus citreopygus** (p. 805)

hh. Back, etc., more russet brown, never becoming greenish olive on upper back, etc.; rump and upper tail-coverts more ochery yellow; tail lighter (more extensively cinnamomeous); larger (male averaging wing 94.8, tail 77.3, exposed culmen 25.4, tarsus 26; female, wing 91.2, tail 73.8, exposed culmen 23.5, tarsus 26). (Honduras to Mexican States of Vera Cruz and Puebla.)
Attila citreopygus salvini (p. 807)

ff. General color of upper parts lighter and more cinnamomeous; tail wholly cinnamomeous or very slightly tinged with brown terminally.

g. Rump and upper tail-coverts tawny-ochraceous or tawny, slightly contrasted with cinnamon-brown of back; anterior under parts more distinctly streaked; averaging larger (wing of male 90.5–98.5, tail, 77–86.5).

h. Paler, with sides less extensively and deeply ochraceous. (Pacific slope of Mexico.).....**Attila citreopygus cinnamomeus** (p. 809)

hh. Darker, with sides more extensively and deeply ochraceous or tawny. (State of Tabasco, southeastern Mexico.)
Attila citreopygus mexicanus (p. 810)

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[a] *Attila wighti* Cherrie, Science Bull. Brooklyn Inst. Arts and Sci., i, no. 8, July 16, 1906, 191 (p. 5 of reprint) (Heights of Aripo, Trinidad; coll. Mus. Brooklyn Inst. Arts and Sciences).

[b] *Attila rufipectus* Allen, Bull. Am. Mus. N. H., xiii, Aug. 25, 1900, 153 (Las Nubes, Santa Marta, Colombia, 5,000 ft.; coll. Am. Mus. N. H.).

[c] *Attila parvirostris* Allen, Bull. Am. Mus. N. H., xiii, Aug. 25, 1900, 153 (Minca, Santa Marta, Colombia; coll. Am. Mus. N. H.).

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gg. Rump and upper tail-coverts ochraceous-yellow or dull chrome yellow, strongly contrasted with cinnamon-brown of back; anterior under parts less distinctly streaked; averaging smaller (wing of male 88.5–93.5, tail, 68.5–75.5). (Pacific slope of Nicaragua and Costa Rica.) ..... **Attila citreopygus luteolus** (p. 810)

ee. Averaging smaller, with relatively larger bill and feet; color of under parts paler (mostly white) with very little if any yellow on chest or sides, the chest indistinctly streaked; color of back, etc., lighter or more buffy brown.

f. Rump and upper tail-coverts paler (ochery yellow); pileum usually grayish and broadly streaked; streaks on throat more dusky; color of sides, flanks, axillars, and under wing-coverts yellowish buff or buff-yellow. (Yucatan, including Meco, Holbox, and Mujeres islands, to coast of British Honduras.)..... **Attila citreopygus gaumeri** (p. 811)

ff. Rump and upper tail-coverts darker (tawny-ochraceous); pileum usually brown and narrowly streaked; streaks on throat more grayish; color of sides, flanks, axillars, and under wing-coverts usually buffy cinnamon or cinnamon-buff. (Cozumel Island, Yucatan.)
Attila citreopygus cozumelæ (p. 812)

ATTILA TEPHROCEPHALUS Ridgway.

GRAY-HEADED ATTILA.

Somewhat like the grayer or more olivaceous examples of *A. citreopygus citreopygus*, but pileum mouse gray, lower throat, chest, and sides of breast uniform light mouse gray or olive-gray, throat with fewer and less distinct dusky streaks, and larger wing-coverts much less distinctly tipped with brown.

Adult female.—Pileum deep mouse gray, narrowly and (except on forehead) indistinctly streaked with dusky; hindneck, sides of neck, and upper back greenish olive, passing gradually into olive-brown or bister on scapulars and lower back; rump and upper tail-coverts naples yellow, the upper portion of the former ocher yellow; tail deep grayish brown (between broccoli and prouts brown), becoming lighter and more cinnamomeous at extreme base; wings dusky grayish brown, becoming brownish olive on secondaries and margins of greater and middle wing-coverts; chin dull grayish white; throat, chest, and sides of breast light mouse gray, the upper throat with a few narrow whitish and broader dusky streaks, the upper chest with a very few narrow and indistinct streaks of yellowish white; sides light gray, tinged with olive, passing into yellowish ocher on flanks; breast (except laterally), abdomen, and under tail-coverts white, the first broadly streaked with pale gray (this predominating anteriorly) and with occasional dusky shaft-lines; anal region and anterior under tail-coverts pale (primrose) yellow; axillars and under wing-coverts light wood brown margined with light buffy yellow; inner webs of remiges grayish brown, passing into pale pinkish brown on edges; bill horn color, the mandible paler; legs and feet horn color (in dried

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skins); length (skin), 157; wing, 83.5; tail, 64.5; exposed culmen, about 21;[a] tarsus, 25; middle toe, 16.5.[b]

Southeastern Costa Rica (Talamanca).

The single specimen from which the above description is taken is so very different in coloration from *A. citreopygus* that, in the absence of any specimens approaching it in a very large and variable series of the latter, I feel compelled to consider it, for the present at least, as specifically distinct.

Attila tephrocephala RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 118 (Talamanca, Costa Rica; coll. U. S. Nat. Mus.).

ATTILA CITREOPYGUS CITREOPYGUS (Bonaparte).

SCLATER'S ATTILA.

Adult male.—Pileum and hindneck greenish olive or dull grayish olive-green, more or less distinctly streaked with dusky, the olive sometimes (in younger individuals?) replaced by olive-brown or even reddish sepia brown; back and scapulars plain reddish vandyke brown to olive-brown (nearly raw-umber), usually brighter or more reddish posteriorly and more olivaceous anteriorly; rump and upper tail-coverts plain light chrome-yellow to light ochraceous-yellow, usually more ochraceous on upper part of rump; tail grayish brown or brownish olive terminally, becoming gradually more buffy brown or cinnamomeous basally (more or less extensively); wings dusky grayish brown, the middle and greater coverts tipped or terminally margined with light buffy brown, cinnamon-brown, or russet, the inner secondaries plain brown (light olive to light bister, or, more rarely, rufescent sepia), the outer secondaries edged with the same; sides of head and neck similar in color to pileum and hindneck, the lores paler, the superciliary region usually narrowly streaked with pale olive-yellowish and dusky; throat and chest light yellow (pale canary to sulphur or citron), or at least partly of this color, the throat more narrowly and distinctly streaked with dusky grayish or olive, the chest more broadly and less distinctly streaked with paler grayish or olive;[c] breast and abdomen white, sometimes faintly tinged with

[a] Tip of bill broken off.

[b] One specimen (the type).

[c] There is much variation (apparently of a purely individual character) in the extent of the yellow on the anterior under parts and the character of the streaking; sometimes the gray or olive streaks on the chest are so broad that the color of the chest may properly be described as gray or light olive (or yellowish olive) narrowly streaked with pale yellow, the latter being sometimes nearly obsolete and the color of the chest, therefore, nearly uniform. There is also much variation in the depth of color of the streaks on the throat, which are usually a medium gray or olive with a narrow shaftline of black. In one specimen (a male from Sucuyá, Nicaragua) the whole throat and median portion of the chest are dull white (the latter faintly tinged with yellow) and the very narrow streaks brownish gray or grayish brown.

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yellow, the former usually more or less streaked with gray (sometimes reduced to mere shaft-streaks, but usually broad streaks of pale gray inclosing a narrow shaft-line of dusky); sides and flanks light yellow next to white of breast and abdomen, passing into ochraceous or ochraceous-yellow or buff-yellow externally; under tail-coverts varying from white to primrose or pale canary yellow; axillars and under wing-coverts buff-yellow to naples yellow; inner webs of remiges grayish, passing into pale grayish buff or cinnamon along edges; bill horn color, the mandible and (usually) lower basal portion of maxilla paler; iris brownish red or light reddish brown; legs and feet grayish dusky or dusky horn color in dried skins, bluish gray or grayish blue in life; length (skins), 161–185 (171); wing, 85–93.5 (89.8); tail, 68–77 (72.4); exposed culmen, 22–25.5 (23.1); tarsus, 23–25.5 (24.4); middle toe, 15–17 (16.1).[a]

Adult female.—Not constantly different in coloration from the male, but sometimes with the chest more uniform pale gray or olive;[b] length (skins), 155–180 (170); wing, 81.5–87.5 (84.9); tail, 63.5–71.5 (67.4); exposed culmen, 21–25 (22.6); tarsus, 22–25.5 (24.5); middle toe, 15–17.5 (16.1).[c]

[a] Sixteen specimens.

[b] These differences, which are shown in only two out of a series of ten specimens, are probably purely individual variations and not sexual.

[c] Ten specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Panama	88.2	73.7	22.3	24.2	16.2
Five adult males from Costa Rica	92.1	70.2	23.4	24.7	16.1
Three adult males from Nicaragua	90	71.3	24.7	24	16
Three adult males (*A. c. salvini?*) from British Honduras	91.3	74.7	26.8	27	16.5
Seven adult males (of *A. c. salvini*) from Hondnras (6) and Guatemala (1)	93.8	75.3	24.6	25.1	16.6
Eight adult males (of *A. c. salvini*) from southeastern Mexico	95.5	78.6	26.1	26.8	17.6
FEMALES.					
Five adult females from Panama	85.3	68.9	22.2	24.3	16.1
Five adult females from Costa Rica	84.5	66	23	24.7	16.1
Three adult females (of *A. c. salvini*) from Honduras (1) and Guatemala (2)	90	72.3	23	25.3	16.3
Two adult females (of *A. c. salvini*) from southeastern Mexico	93	76	25	27	16.7

I am puzzled to know whether specimens from the coast district of British Honduras (Manatee Lagoon) should be referred to the southern or northern forms of this species, since they are intermediate, both in coloration and measurements. On the whole they seem to be nearer to *A. c. salvini* in coloration.

Specimens from the line of the Panama Railway (the type-district of *A. sclateri* Lawrence) are as a rule decidedly more olive (less brown above), the whole back being olive, scarcely different from the color of the pileum and hindneck. No similarly

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Young.—Essentially like adults but pileum without dusky streaks (in first plumage), the feathers indistinctly tipped with darker brown or olive; middle and greater wing-coverts broadly and conspicuously margined terminally with buffy cinnamon or light russet; bill mostly blackish.

Eastern Nicaragua (Rio Escondido; Los Sábalos); eastern and southern Costa Rica (Tucurriqui; Pacuare; Guapiles; La Hondura; Guaitil; Naranjo; Jiménez; Coliblanco; Bonilla; Irazú; Cariblanco de Serapiqué; Pozo Azul), and Panama (Lion Hill, Frijole, and San Pablo stations, Panama Railway; Natá-Coclé; Panama City; Volcan de Chiriqui, El Banco, Boquete, and Divalá, Chiriqui; Santa Fé de Veragua and Calovevora, Veragua); eastern Ecuador?[a]

Dasycephala citreopyga BONAPARTE, Compt. Rend., xxxviii, 1854, 657 (Nicaragua); Notes Orn. Coll. Delattre, 1854, 86.

Attila citreopygius (not of Sclater, 1857) SCLATER, Proc. Zool. Soc. Lond., 1859, 41, part (Nicaragua); Ibis, 1859, 438, part (Nicaragua); Cat. Birds Brit. Mus., xiv, 1888, 361, part (Nicaragua).—LAWRENCE, Ann. Lyc. N. Y., viii, 1863, 485 (Isthmus Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves., ii, 1891, 133, part (Costa Rica, Chiriqui).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 509 (Rio Escondido, Nicaragua).

[*Attila*] *citreopygius* SHARPE, Hand-list, iii, 1901, 168.

Attila spadicea (not *Muscicapa spadicea* Gmelin) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 327 (Lion Hill, Panama).

Attila sclateri LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 470 (Lion Hill, Panama; coll. G. N. Lawrence); ix, 1868, 110 (Guaitil, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 358 (San Pablo, Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 146 (Santa Fé de Veragua, Panama; Tucurriqui, Costa Rica); 1870, 196 (Volcan de Chiriqui and Calovevora, Panama).—FRANTZIUS, Journ. für. Orn., 1869, 306 (Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 404 (Los Sábalos, Nicaragua).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 361 (Irazú distr. and Tucurriqui, Costa Rica; Volcan de Chiriqui, Calovevora, Santa Fé de Veragua, San Pablo, and Panama City, Panama; Ecuador?).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 134.—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 23 (Loma del Leon, Panama); iii, 1902, 40 (Boquete, Panama, 4,000 to 4,500 ft.; crit.); Auk, xviii, 1901, 365 (Divala, Panama).

[*Attila*] *sclateri* GRAY, Hand-list, i, 1869, 340, no. 5145.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 57.—SHARPE, Hand-list, iii, 1901, 168.

ATTILA CITREOPYGUS SALVINI Ridgway.

SALVIN'S ATTILA.

Similar to *A. c. citreopygus*, but more tawny brown above (back and scapulars raw-umber to russet), the pileum and hindneck never olivaceous and, usually, more heavily streaked with black; rump and upper

colored specimens occur in the series examined from western Panama and northward, and it is possible that a large series from eastern Panama may show that *A. sclateri* (or more correctly *A. citreopygus sclateri*) may be a tenable race. If such should prove to be the case its range would be restricted to eastern Panama (and possibly adjacent portions of Colombia, from where, however, I have not seen specimens).

[a] According to Salvin and Godman, but probably different.

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tail-coverts ochraceous or orange-ochraceous (rarely ocher-yellow), instead of light chrome, naples or maize yellow; tail more cinnamomeous or tawny; throat and chest less yellowish (usually grayish white), more distinctly streaked; size averaging decidedly larger.

Adult male.—Length (skins), 186–205 (196); wing, 92–100.5 (94.8); tail, 71.5–80 (77.3); exposed culmen, 24–27.5 (25.4); tarsus, 24.5–27.5 (26); middle toe, 15.5–18.5 (17.1).[a]

Adult female.—Length (skins), 183–195 (187); wing, 87–94 (91.2); tail, 70.5–78 (73.8); exposed culmen, 21.5–25 (23.5); tarsus, 25–27.5 (26); middle toe, 16–17 (16.5).[b]

Southeastern Mexico, in States of Vera Cruz (Santecomapan, Playa Vicente, Jalapa, Buena Vista, Pasa Nueva), Puebla (Metlaltoyuca), Oaxaca (Santa Efigenia, Cacoprieto) and Chiapas (Palenque), and southward through Guatemala (Savana Grande, Choctum, Kamkhal, El Zapote, Naranjo, Escuintla?)[c] to Honduras (Santa Ana, San Pedro Sula, Chamelicon, Ceiba), and British Honduras (near Manatee Lagoon).[d]

Attila citreopygia (not *Dasycephala citreopyga* Bonaparte) SCLATER, Proc. Zool. Soc. Lond., 1857, 228 (Santecomapan, Vera Cruz).—SCLATER and SALVIN, Ibis, 1859, 120 (Guatemala).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 556 (tierra caliente of Vera Cruz).—LANTZ, Trans. Kansas Ac. Sci. for 1896-97 (1899), 221 (Naranjo, Guatemala).

Attila citreopygius SCLATER, Proc. Zool. Soc. Lond., 1859, 41, part (s. Mexico; Guatemala), 366 (Jalapa, Vera Cruz), 383 (Playa Vicente, Vera Cruz), 438, part (Playa Vicente; Guatemala); Cat. Am. Birds, 1862, 195 (Jalapa, Vera Cruz; Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 361, part (Jalapa; Choctum and Kamkhal, Vera Paz; Mexico).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 837 (Honduras).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 25 (Santa Efigenia, Oaxaca).—SALVIN and GODMAN, Biol. Centr. Am., Aves, ii, 1891, 133, part (Jalapa, Vera Cruz; Santa Efigenia, Oaxaca; El Zapote, Choctum, and Kamkhal, Guatemala).—BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Ceiba, Honduras).

[a] Fifteen specimens.

[b] Five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from southeastern Mexico	95.5	78.6	26.1	26.8	17.6
Seven adult males from Guatemala (1) and Honduras (6)	93.8	75.3	24.6	25.1	16.6
Three adult males (*A. c. salvini* ?) from British Honduras	91.3	74.7	26.8	27	16.5
FEMALES.					
Two adult females from southeastern Mexico	93	76	25	27	16.7
Three adult females from Guatemala (2) and Honduras (1)	90	72.3	23	25.3	16.3

[c] Specimens from the Pacific coast district of Guatemala not seen by me. They are more likely to belong to *A. c. cinnamomeus* or *A. c. luteolus*.

[d] August and October; breeding specimens from the same locality seem to be referable to *A. c. gaumeri*.

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[*Attila*] *citreopygius* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 57, part.—SHARPE, Hand-list, iii, 1901, 168, part (s. Mexico).

D[*asycephala*] *citrinopyga* CABANIS and HEINE, Mus. Hein., ii, July, 1859, 14 (Jalapa).

[*Dasycephala*] *citrinopyga* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 127 (Jalapa, Vera Cruz).

[*Attila*] *citrinopygus* GRAY, Hand-list, i, 1869, 340, no. 5142.

(?) *Attila hypoxanthus* SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 135, part (Vera Paz, Guatemala).

(?) [*Attila*] *hypoxanthus* SHARPE, Hand-list, iii, 1901, 169, part.

Attila citreopyga salvini RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 118 (Pasa Nueva, Vera Cruz, Mexico; coll. U. S. Nat. Mus).

ATTILA CITREOPYGUS CINNAMOMEUS (Lawrence).

LAWRENCE'S ATTILA.

Similar to *A. c. salvini*, but much lighter and more cinnamomeous brown (hindneck, back, and scapulars tawny brown or ochraceous-brown, even the pileum sometimes cinnamomeous), the rump and upper tail-coverts ochraceous (very rarely ocher-yellow), much less strongly contrasted with color of back, etc.; tail wholly cinnamon or dull tawny; under parts essentially as in *A. c. salvini*.[a]

Adult male.—Length (skins), 194–209 (202); wing, 90.5–98.5 (95); tail, 77–86.5 (80.6); exposed culmen, 23–25.5 (24.1); tarsus, 25–27 (26); middle toe, 16–18 (16.7).[b]

Adult female.—Length (skins), 193–200 (196); wing, 88.5–92 (90.5); tail, 74.5–79.5 (76.2); exposed culmen, 23–24 (23.6); tarsus, 24–26.5 (25.6); middle toe, 15–17 (16.1).[c]

Pacific slope of western and southwestern Mexico, in States of Sinaloa (Mazatlan; Mount Lisiarraga, 5,500 feet.),[d] Jalisco (Beltran; Hacienda de San Marcos; Tonila; San Sebastian), Colima (Santiago), Guerrero (Omilteme;[d] Amula; Rincon; Egido Nuevo; Papayo; Aca-

[a] As in both *A. c. citreopygus* and *A. c. salvini*, the under parts are sometimes extensively yellow; in fact, one of the original specimens collected by Grayson at Mazatlan has no white whatever on the under surface, which is continuously clear canary yellow, with, however, the usual dusky streaks on throat and chest and tawny-buff sides. It is on this style of plumage, which is undoubtedly merely an individual "xanthochroic" phase, that *A. hypoxanthus* Salvin and Godman was based. Were it not that the specimen from Vera Paz described by Messrs. Salvin and Godman and that from Venta del Pelegrino, Guerrero, are said by them to be "practically inseparable," the name *hypoxanthus* (although based on a comparatively rare color-phase) would be available for the form which I have named *salvini;* but in view of the statement just quoted, and also the very strong probability that *A. c. cinnamomeus* extends along the Pacific coast even beyond Guatemala, I conclude that the Vera Paz specimen, although from outside the normal range of the form, and from a district which should be inhabited by *A. c. salvini*, really belongs to the Pacific coast form.

[b] Ten specimens.

[c] Four specimens.

[d] These two specimens are much duller brown above (deep wood brown, in the one from Omilteme, becoming almost hair brown on the pileum) and have the sides decidedly paler (cinnamon-buffy).

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huitzotla; Coquillo; Coyuca), and Oaxaca (Juchatengo; Sola), and Territory of Tepic (Santiago).

Attila cinnamomeus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., x, Feb., 1871, 8 (Mazatlan, Sinaloa, Mexico; coll. U. S. Nat. Mus.).—LAWRENCE, Mem. Bost. Soc. N. H., ii, pt. iii, no. 2, 1874, 285 (Mazatlan; habits).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 135 (Santiago, Tepic; Beltran, Hacienda de San Marcos and Tonila, Jalisco; Santiago, Colima; Omilteme, Amula, and Rincon, Guerrero; Juchatengo and Sola, Oaxaca).—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 356 (Sierra San Juan Lisiarraga, Sinaloa; colors of unfeathered parts).

[*Attila*] *cinnamomeus* SHARPE, Hand-list, iii, 1901, 169.

Attila hypoxanthus SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, sig. 17, Feb., 1891, 135, part (Venta de Pelegrino, Guerrero).

[*Attila*] *hypoxanthus* SHARPE, Hand-list, iii, 1901, 169, part.

ATTILA CITREOPYGUS MEXICANUS (Nelson).

TABASCO ATTILA.

Similar in coloration to *A. c. cinnamomeus*, but much darker (except tail), the general color of upper parts deep tawny-russet, the upper rump (extensively) deep bright tawny, pileum darker and suffused with deep gray, with black streaks on forehead broader, throat more heavily streaked with dusky, chest and lower throat broadly streaked with brown on a light yellow ground, sides of chest uniform tawny-brown (raw-umber), sides and flanks (extensively) bright ochraceous, the axillar and under wing-coverts slightly buffy ochraceous.

Adult male.—Length (skin), 197; wing, 98; tail, 81.5; exposed culmen, 26.5; tarsus, 26; middle toe, 18.[a]

State of Tabasco (Frontera), southeastern Mexico.

Attila mexicana NELSON, Proc. Biol. Soc. Wash., xiv, Sept. 25, 1901, 172 (Frontera, Tabasco; coll. U. S. Nat. Mus.).

ATTILA CITREOPYGUS LUTEOLUS Ridgway.

TAWNY ATTILA.

Similar in coloration to *A. c. cinnamomeus*, but decidedly smaller, rump and upper tail-coverts much more yellowish (usually dull chrome yellow) and anterior under parts much less distinctly streaked. Differing from *A. c. citreopygus* in much lighter and much more cinnamomeous color of back, scapulars, and tail, and much less distinctly streaked throat and chest.

Adult male.—Length (skins), 173–189 (181); wing, 88.5–93.5 (90.3); tail, 68.5–75.5 (72.3); exposed culmen, 22.5–24 (23.2); tarsus, 25–26 (25.7); middle toe, 16.5–18 (17.2).[b]

Pacific slope of Nicaragua (San Carlos; Sucuyá) and Costa Rica (San José).

[a] One specimen (the type). [b] Three specimens.

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Attila citreopygia (not *Dasycephala citreopyga* Bonaparte) NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 385 (Sucuyá, Nicaragua).

Attila citreopygius SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 133, part (Sucuyá, Nicaragua).

[*Attila*] *citreopygius* SHARPE, Hand-list, iii, 1901, 168, part.

(?)*Attila sclateri* (not of Lawrence ?) UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).

Attila citreopyga luteola RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 119 (San José, Costa Rica; coll. U. S. Nat. Mus.).

ATTILA CITREOPYGUS GAUMERI (Salvin and Godman).

GAUMER'S ATTILA.

Somewhat like *A. c. salvini*, but decidedly smaller, with relatively larger bill; brown of upper parts paler and duller (less rufescent); ochraceous of rump and upper tail-coverts paler, and chest more or less strongly suffused with gray (sometimes nearly uniform gray), very slightly if at all streaked.

Adult male.—Forehead mixed whitish and black, the latter prevailing medially; rest of pileum brownish mouse gray, heavily streaked with black; hindneck, sides of neck, and upper back plain light buffy brown (between wood brown and raw-umber), deepening gradually on scapulars and lower back into raw-umber brown; upper rump bright olive-tawny (raw-sienna), the extreme lower portion of back strongly tinged with the same; rest of rump clear ocher yellow, the upper tail-coverts similar but slightly paler; tail light buffy brown (nearly wood brown), becoming more grayish (broccoli) brown terminally, the shafts of rectrices cinnamon; wings dusky grayish brown, the middle and greater coverts tipped with light cinnamon or wood brown, the innermost secondaries buffy brown (between broccoli and wood brown), the other remiges edged with light grayish brown; chin and most of throat white, the middle throat broadly streaked with dusky, the lower throat broadly streaked with smoke gray and white or yellowish white; chest plain pale yellowish gray laterally, broadly but indistinctly streaked with the same and yellowish white medially; sides, flanks, axillars, and under wing-coverts yellowish buff or buff-yellow; rest of under parts white, the breast faintly streaked with gray, the anterior under tail-coverts pale (primrose) yellow; bill horn color, more dusky on subterminal portion of maxilla, the tip of the latter (unguis) whitish; legs and feet grayish dusky (bluish gray in life?); length (skin), 192; wing, 89.5; tail, 71.5; exposed culmen, 25.5; tarsus, 26; middle toe, 16.5.[a]

Adult female.—Similar to the male (perhaps not always distinguishable), but usually(?) with chest deeper and more uniform grayish or with distinct streaks of light brownish gray inclosing a dusky shaft-line; length (skins), 179–184 (182); wing, 81.5–85.5 (83.5); tail, 66.5–

[a] One specimen, from Puerto Morelos.

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71.5 (69); exposed culmen, 24; tarsus, 25–25.5 (25.2); middle toe, 15–16.5 (15.7).[a]

Yucatan (Tizimin; Peto; Puerto Morelos; Chichen-Itza; Meco Island; Holbox Island; Mujeres Island) to coast of British Honduras (forest near Manatee Lagoon).[b]

Attila citreopygius (not *Dasycephala citreopyga* Bonaparte) BOUCARD, Proc. Zool. Soc., Lond., 1883, 449 (Tizimin, Yucatan).

Attila citreopygius ? SALVIN, Ibis, 1889, 364 (Meco I., Holbox I., and Mujeres I., Yucatan; crit.).

Attila cozumelæ (not of Ridgway) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 362, part (Holbox I., Meco I., and Mujeres I., Yucatan).

Attila gaumeri SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, sig. 17, Feb. 1891, 134 (Tizimin, Yucatan; coll. Salvin and Godman).

[*Attila*] *gaumeri* SHARPE, Hand-list, iii, 1901, 169.

ATTILA CITREOPYGUS COZUMELÆ (Ridgway).

COZUMEL ATTILA.

Similar to *A. c. gaumeri*, but rump and upper tail-coverts usually much darker (tawny-ochraceous instead of ocher yellow), pileum usually browner and more narrowly streaked,[c] streaks on throat more grayish, and color of sides, flanks, axillars, and under wing-coverts buffy cinnamon, cinnamon-buff, or buff[c] instead of yellowish buff or buff-yellow; averaging smaller.

[a] Two specimens, from Puerto Morelos and Chichen-Itza.

[b] An adult male and a young female from near Manatee Lagoon, British Honduras, must, I think, be referred to this form, although undoubtedly not typical, but indicating unmistakable intergradation with *A. c. citreopygus* or *A. c. salvini*. In coloration the adult male is, allowing for difference in condition of the plumage (which is decidedly though not badly worn in the British Honduras specimen), practically identical with adults from Yucatan, but the wing, tail, and tarsus are slightly longer and the slightly larger. Two other adults from the same locality, taken in August and October, respectively, and therefore possibly migrants, are, however, distinctly referable to *A. c. salvini*, though intermediate between that form and *A. c. citreopygus*. (See remarks on p. 806.)

Measurements of the British Honduras specimen compared with those of an adult male from Yucatan (Puerto Morelos) are as follows:

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Adult male from near Manatee Lagoon, British Honduras...	92	74.5	26	26.5	16.5
Adult male from Puerto Morelos, Yucatan.....	89.5	71.5	25.5	26	16.5

[c] In a single specimen (the type) the pileum is decidedly more grayish than the back, precisely as in *A. c. gaumeri*, the black streaks broader, and, on the forehead, intermixed with white streaks. This specimen, in fact, although unfortunately the type of *A. cozumelæ*, is distinctly intermediate between that form and *A. c. gaumeri*, having, besides, the axillars and under wing-coverts light ocher yellow or naples yellow, instead of buff, cinnamon-buff, or buffy cinnamon, as in all other specimens examined from Cozumel Island.

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Adult male.—Length (skins), 188–192 (191); wing, 87.5–91 (89.7); tail, 70.5–76.5 (73.8); exposed culmen, 24.5–25.5 (25); tarsus, 24.5–26 (25.2); middle toe, 15.5–16 (15.8).[a]

Adult female.—Length (skins), 170.5–188 (180); wing, 79–88.5 (82.5); tail, 61–72 (64.5); exposed culmen, 23.5–24.5 (23.8); tarsus, 24–26 (25.2); middle toe, 15–16 (15.5).[b]

Island of Cozumel, Yucatan.

Attila cozumelæ RIDGWAY, Descr. New Sp. Birds from Cozumel, Feb. 26, 1885, 3 (Cozumel I., Yucatan; coll. U. S. Nat. Mus.); Proc. Biol. Soc. Washington, iii, 1885, 23; Proc. U. S. Nat. Mus., viii, 1885, 572 (Cozumel I.; descriptions; crit.).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 362, part (Cozumel I., Yucatan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 134 (Cozumel I.).—SALVIN, Ibis, 1889, 364 (Cozumel I.; crit.).

[*Attila*] *cozumelæ* SHARPE, Hand-list, iii, 1901, 169.

Attila sp.? SALVIN, Ibis, Apr., 1885, 191 (Cozumel I.; crit.; habits).

Genus HYLONAX Ridgway.

Hylonax[c] RIDGWAY, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210. (Type, *Myiarchus validus* Sclater.)

Superficially resembling the more stoutly built species of the Tyrannine genus *Myiarchus*, but tarsal envelope non-exaspidean, the planta tarsi consisting of a single continuous row of rather large, quadrate scutella, separated from the inner edge of the acrotarsium by a narrow nonscutellate space; bill relatively longer and narrower, culmen straighter, but more abruptly decurved terminally, the tip of maxilla more strongly uncinate; gonys more convex, more prominent basally, and more ascending terminally.

Bill as long as head, narrowly conical or subterete, its width at frontal antiæ decidedly less than half the length of exposed culmen (about equal to half the distance from nostril to tip of maxilla); culmen straight to near tip, where strongly and rather abruptly decurved, the tip of maxilla strongly uncinate; lower outline of mandible strongly convex, the gonys ascending rather rapidly from its prominent basal angle; nostril small, roundish or oval, without obvious marginal membrane, showing through or in front of bristly laterofrontal plumules, the latter, together with those of chin, moderately developed; rictal bristles well developed. Wing moderate or rather long, moderately rounded, the primaries exceeding secondaries by about length of bill; eighth, seventh, and sixth primaries longest, the outermost (tenth) about equal to fourth or slightly shorter. Tail nearly as long as wing, even or very slightly rounded. Tarsus slightly longer than exposed culmen, rather slender, its scutellation quasi-holaspidean, the planta tarsi consisting of a single continuous series of about 10 rather large and very distinct quadrate scutella, separated

[a] Three specimens. [b] Six specimens. [c] ὕλη, forest; ἄναξ, king.

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from the inner edge of the acrotarsium by a narrow nonscutellate strip; middle toe, with claw, a little shorter than tarsus, its basal phalanx united to outer toe for much the greater part, to inner toe by about half its length; outer toe (without claw) reaching to middle of subterminal phalanx of middle toe, the inner toe slightly but decidedly shorter; hallux shorter than inner toe, but decidedly stouter, its claw shorter than the digit; all the claws rather large, strongly curved, sharp.

Coloration.—Above plain olive, the tail mostly rufous and wings with rufous edgings; beneath plain gray, passing into pale yellowish on abdomen and under tail-coverts. (Sexes alike.)

Nidification.—Nest "a slight matting of twigs and leaves, lined with cow's or goat's hair, placed in a fork or indentation or decayed hollow . . . never in a deep hollow."[a] Eggs "clayish white, splashed with spots and scratches, and about the large end with blotches, of vandyke brown, and pale sepia and slaty spots."[a]

Range.—Island of Jamaica, Greater Antilles. (Monotypic.)

HYLONAX VALIDUS (Cabanis).

GOSSE'S FLYCATCHER.

Adults (*sexes alike*).—Pileum, hindneck, back, rump, and scapulars plain olive, the pileum very slightly darker and with indistinct shaft-streaks of dusky olive; upper tail-coverts grayish brown or olive-brown, passing into rusty brown (russet or cinnamon) on margins; middle pair of rectrices grayish brown or olive-brown, edged with rusty brown or cinnamon; remaining rectrices with outer webs grayish brown or olive-brown, passing into russet or cinnamon on edges, their inner webs cinnamon-rufous or rufous-cinnamon, except a narrow streak of grayish brown next to shaft for terminal half (more or less); wings dusky, the middle and posterior row of lesser coverts broadly margined terminally with cinnamon or light russet, greater coverts broadly edged with the same, the remiges with outer webs deep cinnamon or cinnamon-rufous, except next to shaft, the edgings paler, more buffy, and broader, on inner secondaries; loral, suborbital, and malar regions dull gray (nearly mouse gray), the auricular region similar but more olive; chin, throat, and upper chest gray (no. 6 or no. 7), sometimes faintly tinged with olive, passing into paler and more yellowish gray on breast, the remaining under parts pale (primrose or straw) yellow; axillars and under wing-coverts buff or cream-buff; inner webs of remiges broadly edged with vinaceous-cinnamon; bill horn brown, darker terminally, the mandible paler basally; iris, brown; legs and feet dusky brown to brownish black (in dried skins).

Adult male.—Length (skins), 197 211 (205); wing, 98.5–105 (102.2);

[a] March, Proc. Ac. Nat. Sci. Phila., 1863, 288.

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tail, 91–97.5 (94); exposed culmen, 21.5–22.5 (21.8); tarsus, 22.5–24.5 (23.2); middle toe, 14–15.5 (14.6).[a]

Adult female.—Length (skins), 200–208 (204); wing, 102–103 (102.5); tail, 91.5–97 (94.3); exposed culmen, 21–22 (21.5); tarsus, 23.5–24 (23.8); middle toe, 13.5–14 (13.8).[b]

Island of Jamaica, Greater Antilles.

Tyrannus crinitus (not *Muscicapa crinita* Linnæus) Gosse, Birds Jamaica, 1847, 186.

Myiarchus validus Cabanis, Wiegmann's Archiv. für Naturg., 1847, i, 351 (Jamaica).—Sclater, Proc. Zool. Soc. Lond., 1861, 76; Cat. Am. Birds, 1862, 232; Cat. Birds Brit. Mus., xiv, 1888, 252 (Moneague and near Spanishtown, Jamaica).—Albrecht, Journ. für Orn., 1862, 199.—March, Proc. Ac. Nat. Sci. Phila., 1863, 288.—Coues, Proc. Ac. Nat. Sci. Phila., 1872, 62.—Baird, Brewer, and Ridgway, Hist. N. Am. Birds, ii, 1874, 331.—Salvin, Cat. Strickland Coll., 1882, 315.—Cory, Auk, iii, 1886, 237; Birds West Ind., 1889, 124; Cat. West Ind. Birds, 1892, 13, 130.—Scott, Auk, x, 1893, 177.

[*Myiarchus*] *validus* Sclater and Salvin, Nom. Av. Neotr., 1873, 52.—Cory, List Birds West Ind., 1885, 15.—Sharpe, Hand-list, iii, 1901, 144.

M[yiarchus] validus Newton (A. and E.), Handb. Jamaica, 1881, 107.

Myiarchus vallidus Cory, Cat. West Ind. Birds, 1892, 108.

M[yionax] validus Cabanis and Heine, Mus. Hein., ii, 1859, 73, footnote.

[*Pyrocephalus*] *validus* Gray, Hand-list, i, 1869, 362, no. 5520.

Hylonax validus Ridgway, Proc. Biol. Soc. Wash., xviii, Sept. 2, 1905, 210.

Tyrannula gossii Bonaparte, Consp. Av., i, 1850, 189 (Jamaica; based on *Tyrannus crinitus* Gosse, Birds Jam., 186).

Tyr[annula] gossii Kaup, Proc. Zool. Soc. Lond., 1851, 51 (crit.).

Genus SIRYSTES Cabanis and Heine.

Sirystes[c] Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 75. (Type, *Muscicapa sibilator* Vieillot.)

Similar to *Lipaugus*, but without serrations on upper portion of planta tarsi, bill relatively broader at base, and coloration very different.

Bill typically Tyrannine, much shorter than head, wedge-shaped in vertical profile (lateral margins nearly straight), much broader than deep at anterior end of nostrils; exposed culmen much longer than middle toe without claw, but decidedly shorter than tarsus, straight or nearly so to near tip, where rather abruptly decurved and moderately uncinate; gonys a little shorter than distance from nostril to tip of maxilla but decidedly longer than mandibular rami, straight or very faintly convex; maxillary tomium straight or very faintly sinuated, distinctly notched subterminally. Nostril rather large, roundish or obliquely broadly oval, non-operculate, mostly exposed. Rictal bristles distinct but not strong; latero-frontal bristles distinct, slender, and arched, extending much beyond nostrils; feathers of chin with

[a] Five specimens. [b] Two specimens. [c] "Σιρύστης=Sibilator, von σιρύζω (zischen)."

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distinct though slender antrorse bristly points. Wing moderate, rounded, the ninth, eighth, and seventh primaries longest, the tenth not longer (sometimes shorter) than fifth; wing-tip about equal to tarsus. Tail nearly as long as wing (longer than distance from bend to end of secondaries), even or slightly emarginate, the rectrices rounded at tip, the lateral ones gradually widening terminally. Tarsus slender, shorter than commissure, its scutellation holaspidean, the single row of large quadrate scutella forming the planta tarsi, having its anterior margin on outer side joining the posterior margin of the acrotarsium a little behind the median line; middle toe, without claw, about two-thirds as long as tarsus; inner toe, without claw, reaching about to middle of subterminal phalanx of middle toe, the outer decidedly longer, its claw reaching to middle of that of middle toe; hallux shorter than inner toe, its claw nearly as long as the digit; all the claws strongly curved, acute; basal phalanx of middle toe wholly adherent to outer toe, about half so to inner toe; basal tylari of hallux and inner toe broad and flattened.

Coloration.—Pileum, wings, and tail blackish, the wings with conspicuous whitish, grayish, or buffy edgings, the tail sometimes tipped with white; back and scapulars grayish (with or without darker streaks), passing into paler grayish or whitish on rump; under parts plain pale grayish, becoming whitish on abdomen. Sexes alike in color.

Nidification.—(Unknown?)

Range.—Panama to Ecuador and southeastern Brazil. (Three species.)

This genus, hitherto placed in the family Tyrannidæ, certainly comes very near to *Lipaugus* and *Casiornis*, both of which are by general consent considered as members of the Cotingidæ. The structure of the feet, including the scutellation of the tarsal envelope and the amount of cohesion between the anterior toes, is precisely the same as in the two genera mentioned, except that *Lipaugus* differs (as it also does not only from all Tyrannidæ but from all other Cotingidæ as well) in having the scutella of the upper portion of the planta tarsi developed into prominent tubercles or serrations. The coloration of *Sirystes* suggests that of *Erator* and *Pachyrhamphus* quite as much as it does that of any member of the Tyrannidæ; but the bill is typically tyrannine, resembling closely that of *Tyrannus* and the stouter billed *Myiarchi*, which probably accounts for the erroneous allocation of the genus to the last-named family.

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KEY TO THE SPECIES AND SUBSPECIES OF SIRYSTES.

a. Rump light olive or grayish, becoming whitish or pale yellowish olive on extreme lower portion. (*Sirystes sibilator*.)

b. Darker above, with lower rump pale yellowish olive or dull pale yellowish; bill larger and tail longer (adult male, wing 96, tail 86[a]). (Paraguay and southeastern Brazil.).....**Sirystes sibilator sibilator** (extralimital) [b]

bb. Paler above, with lower rump whitish; bill smaller, tail shorter (adult male, wing 90, tail 80, exposed culmen 15.5, tarsus 19). (Southwestern Brazil.) **Sirystes sibilator atimastus** (extralimital) [c]

aa. Rump (extensively) white.

b. Wing-coverts narrowly margined (tipped and edged) with grayish. Colombia, Ecuador, and upper Amazon Valley.).....**Sirystes albocinereus** (extralimital) [d]

bb. Wing-coverts broadly margined with white. (Panama.)

Sirystes albogriseus (p. 817)

SIRYSTES ALBOGRISEUS (Lawrence)

PANAMA SIRYSTES.

Adult.—Pileum dull black, passing into dusky slate color on forehead and nape, the loral, suborbital, and auricular regions slate-grayish; hindneck, back, and scapulars light yellowish gray, some of the feathers with indistinct shaft-streaks of darker grayish; rump white; shorter upper tail-coverts pale gray broadly margined with grayish white, the longer ones deep brownish gray passing into pale gray on margins and with blackish shaft-streaks; tail dull black or dusky narrowly tipped with pale gray, the outermost rectrix narrowly edged with dull white; wings dull black, the lesser coverts

[a] The above measurements are from Sclater (Cat. Birds Brit. Mus., xiv, 1888, 181), the only specimens at my disposal being females. One of these (from Sapucay, Paraguay) measures as follows: wing, 93; tail, 85; exposed culmen, 18; tarsus, 20.

[b] *Muscicapa sibilator* Vieillot, Nouv. Dict. d'Hist. Nat., xxi, 1818, 457 (Paraguay; based on *Pitador* Azara, Apunt., ii, 135).—"*M*." [i. e., *Sirystes*] *sibilator* Cabanis and Heine, Mus. Hein., ii, 1859, 75 (Brazil).—*Sirystes sibilator* Sclater, Cat. Am. Birds, 1862, 75 (Brazil); Cat. Birds Brit. Mus., xiv, 1888, 181 (Pelotes, Rio Grande do Sul, and Rio Clara, Goyaz, Brazil).—*Sirystes sibilator sibilator* Oberholser, Proc. U. S. Nat. Mus., xxv, no. 1276, 1902, 66, in text.—[*Pitangus*] *sibilator* Gray, Hand-list, i, 1869, 357, no. 5930.—*M*[*uscicapa*] *sibilans* Lichtenstein, Verz. Doubl., 1823, 54 (São Paulo, s. Brazil; based on *Le Siffleur* Azara, 191).—*Tyrannula sibilans* Hartlaub, Index Azara's Apunt., 1847, 13.—*Myiarchus sibilans* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 472.—*M*[*yiobius*] *sibilans* Gray, Gen. Birds, i, 1847, 249.

[c] *Sirystes sibilator* (not *Muscicapa sibilator* Vieillot) Allen, Bull. Am. Mus. N. H., iv, 1892, 338 (Chapada, Mattogrosso, Brazil).—*Sirystes sibilator atimastus* Oberholser, Proc. U. S. Nat. Mus., xxv, no. 1276, Aug. 30, 1902, 66 (Chapada, Mattogrosso, s. w. Brazil; coll. U. S. Nat. Mus.).—*S*[*irystes*] *albocinereus atimastus* Berlepsch, Proc. Fourth Internat. Orn. Congr., Feb., 1907, 475.

[d] *Sirystes albogriseus* (not of Lawrence) Sclater and Salvin, Proc. Zool. Soc. Lond., 1873, 280 (Santa Cruz, e. Peru; crit.); Taczanowski, Orn. du Pérou, ii, 1884, 287.—*Sirystes albocinereus* Sclater and Salvin, Proc. Zool. Soc. Lond., 1880, 156 (Bogota, Colombia; coll. P. L. Sclater); Sclater, Cat. Birds Brit. Mus., xiv, 1888, 181, pl. 14 (Bogota; Sarayacu, e. Ecuador; Santa Cruz and Yquitos, e. Peru; Upper Amazons).

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broadly margined with pale gray, the posterior lesser coverts and middle coverts very broadly margined with grayish white, greater coverts edged and broadly tipped with grayish white, and secondaries edged (except basally) with white, the edgings very broad on inner secondaries; malar region, chin, throat, and chest very pale gray (about no. 10), passing posteriorly into white on remaining under parts; axillars and under wing-coverts white, the former very faintly tinged with yellow; inner webs of remiges edged basally with white; maxilla horn brown basally, dusky terminally, the mandible paler horn brown, becoming dusky on lateral terminal portion; legs and feet dusky brown (in dried skin); length (skin), 178; wing, 97; tail, 82; exposed culmen, 14; tarsus, 19; middle toe, 12.[a]

Panama (Lion Hill Station; Veragua; Natá-Coclé).

Lipaugus albogriseus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 487 (p. 9 of reprint) (Lion Hill Station, Panama Railway; coll. G. N. Lawrence).

Sirystes albogriseus SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1880, 156 (Veragua).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 182 (Veragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1889, 47, pl. 37, fig. 1.

[*Sirystes*] *albogriseus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 50.—SHARPE, Hand-list, iii, 1901, 129.

Genus LIPAUGUS Boie.

Lipangus (typographical error) BOIE, Isis, 1828, 318. (Type, *Muscicapa simplex* Lichtenstein.)

Lipaugus (emendation) CABANIS and HEINE, Mus. Hein., ii, 1859, 100, footnote.

Rhytipterna REICHENBACH, Av. Syst. Nat., 1850, pl. 65. (Type, *Muscicapa simplex* Lichtenstein.)

Medium-sized Cotingidæ (wing about 85–110 mm.), closely resembling, superficially, the genus *Lathria*, of plain dull gray or cinnamon-rufous coloration, with upper portion of posterior edge of tarsus conspicuously serrate, and rictal and frontal bristles strongly developed.

Bill decidedly shorter than head, rather broad and depressed basally (width at nostrils slightly to decidedly greater than depth at same point), wedge-shaped in vertical profile; culmen distinctly ridged, straight, or nearly so, for most of its length, strongly and rather abruptly decurved terminally, the tip of maxilla distinctly uncinate; gonys decidedly longer than mandibular rami, faintly convex, with very faint median ridge on terminal portion; maxillary tomium nearly straight, distinctly notched subterminally. Nostril (mostly or partly covered by antrorse latero-frontal bristles) rather large, obliquely broadly oval. Rictal bristles very strongly developed, the antrorse latero-frontal feathers and those of chin also with distinct bristly points. Wing moderate, with longest primaries exceeding secondaries by about the length of exposed culmen; seventh and

[a] One specimen (the type), sex undetermined.

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eighth primaries longest, the sixth and ninth successively shorter, the tenth intermediate between third and fourth. Tail nearly as long as wing, even or slightly rounded, the rectrices rather broad, with rounded tip. Tarsus about as long as commissure, its scutellation peculiar, the single row of large quadrate scutella on outer side of the planta tarsi lapping round the rather sharp posterior margin to the inner side, where almost (sometimes quite) touching the scutella of the acrotarsium; the upper portion of the tarsus widening toward the heel joint and conspicuously serrate; middle toe, with claw, much shorter than tarsus, its basal phalanx adherent for most of its length to outer toe, mostly free from inner toe; outer toe (without claw) reaching nearly to base of terminal phalanx of middle toe, the inner decidedly shorter; hallux nearly as long as inner toe, not conspicuously stouter, its basal pad (tylarus) not noticeably expanded nor flattened.

Plumage and coloration.—Contour feathers broad and blended, those of the pileum slightly elongated and more distinctly outlined. Color (both sexes) plain gray or cinnamon-rufous (paler below), exactly as in some species of the genus *Lathria*.

Nidification.—(Unknown?)

Range.—Southern Mexico to Brazil and Ecuador. (Three species.)

KEY TO THE SPECIES AND SUBSPECIES OF LIPAUGUS.

a. General color gray. (Colombia to Guiana and southeastern Brazil.)
Lipaugus simplex (extralimital)[a]

a. General color dull cinnamon-rufous or russet. (*Lipaugus holerythrus*.)

b. Paler, the general color russet above, cinnamon-russet below. (Southern Mexico to northern Colombia).....**Lipaugus holerythrus holerythrus** (p. 820)

bb. Darker, the general color approaching cinnamon-chestnut. (Southwestern Colombia and northwestern Ecuador.)
Lipaugus holerythrus rosenbergi (extralimital)[b]

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[a] *M[uscicapa] simplex* Lichtenstein, Verz. Doubl., 1823, 53 (Bahia, s. e. Brazil; coll. Berlin Mus.).—*L[ipangus] simplex* Hartlaub, Rev. Zool., 1846, 3.—*Lipaugus simplex* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 356.—*Tyrannus calcaratus* Swainson, Quart. Jour. Sci., xx, no. lx, Jan. 1826, 271 (Bahia, Brazil).—*Muscicapa cinerascens* Spix Av. Bras., ii, 1825, 16, pl. 21 (Rio de Janeiro, Brazil).—*Muscicapa rustica* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 866 (s. e. Brazil; type now in coll. Am. Mus. N. H.).—*Myiarchus rusticus* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 470.

I am not acquainted with *Lipaugus immundus* Sclater and Salvin (Nom. Av. Neotr., 1873, 159; Oyapock, Cayenne; coll. P. L. Sclater; Cat. Birds Brit. Mus., xiv, 1888, 357), which is said to differ in more yellowish abdomen, darker general coloration, and narrower bill. Berlepsch and Hartert, in discussing the birds of this species from Venezuela (Novit. Zool., ix, 1902, 57), refer them provisionally, together with specimens from Bogota, Colombia, and British Guiana, to *L. immundus*, under the name *Lipaugus simplex immundus* (?), restricting *L. simplex* to southeastern Brazil.

[b] *Lipangus holerythrus* (not of Sclater and Salvin) Hartert, Novit. Zool., v, 1898, 489 (Cachavi, n. w. Ecuador).—*Lipangus holerythrus rosenbergi* Hartert, Bull. Brit. Orn. Club, xvi, no. cxviii, Nov. 1, 1905, 12 (Rio Dagua, s. w. Colombia; coll. Tring Mus.).

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LIPAUGUS HOLERYTHRUS HOLERYTHRUS Sclater and Salvin.

RUFOUS LIPAUGUS.

Adults (*sexes alike*).—Above cinnamon-brown or tawny russet; wing-coverts brown, passing into russet terminally; remiges (except tertials) darker brown, the secondaries (broadly) and primaries (more narrowly or less distinctly) edged with dull cinnamon-rufous; under parts plain dull tawny-ochraceous, deeper on chest, where inclining, more or less, to dull tawny; axillars and under wing-coverts uniform clear tawny-ochraceous; inner webs of remiges deep vinaceous-cinnamon or light cinnamon-rufous, the longer primaries extensively brown terminally; maxilla dusky horn color or blackish brown terminally, paler horn brownish basally; mandible dull whitish (in dried skins, more or less flesh-colored in life) for basal half or more, dusky terminally; iris brown; legs and feet dusky in dried skins, blackish horn color to bluish black in life.

Adult male.—Length (skins), 181–206 (196); wing, 99–109 (103.5); tail 85–95 (88.8); exposed culmen, 17.5–21 (18.5); tarsus 21.5–25 (22.8); middle toe, 12.5–14.5 (13.6).[a]

Adult female.—Length (skins), 186–205 (195); wing, 100–107.5 (103.6); tail, 86–94 (89.9); exposed culmen, 18–20 (18.9); tarsus, 21–24 (22.8); middle toe, 12.5–14 (13.4).[b]

Guatemala (Choctum; sources of Rio de la Pasion; tierra caliente of Vera Paz) and southward through Honduras (Yaruca), Nicaragua (Rio Escondido), Costa Rica (Angostura; Tucurriqui, Turrialba; Carrillo; Bonilla; Jiménez; Rio Frio; Cuabre; Rio Sicsola; San Carlos; Naranjo; Volcan de Miravalles; Pozo Azul de Pirris) and

[a] Fourteen specimens.

[b] Sixteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from "Mexico"	103.5	92.5	18.5	24.5	13
One adult male from Honduras (Yaruca)	109	95	17.5	22	13.5
Seven adult males from Costa Rica	102.8	88.2	19.4	23.1	13.9
Five adult males from Panama	103.5	88.8	18.5	22.8	13.6
FEMALES.					
One adult female from Honduras (Yaruca)	102	87.5	18.5	23	13
Ten adult females from Costa Rica	104	90	19.2	22.7	13.4
Five adult females from Panama	102.9	90.3	18.5	22.7	13.5

There is some variation in the brightness of the color of the upper parts and depth of color on the under surface, but the extremes apparently occur among specimens from the same locality, and I am unable to discover constant differences, either in coloration or measurements, between specimens from different geographic areas.

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Panama (Volcan de Chiriqui; Chitra; Boquete de Chitra; Boquete; Calovevora; Santa Fé de Veragua; Divala; Lion Hill) to northern Colombia (Remedios and Neche, Antioquia; Magdalena Valley; Bucaramanga); southeastern Mexico?

Lipaugus holerythrus Sclater and Salvin, Proc. Zool. Soc. Lond., 1860, 300 (Choctum, Vera Paz, Guatemala; coll. Salvin and Godman): 1864, 361 (Isthmus of Panama; crit. 1867, 279 (Blewfields R., Nicaragua); 1879, 519 (Neche, Antioquia, Colombia); Ibis, 1860, 400 (tierra caliente of Vera Paz, Guatemala); Exotic Orn., 1869, 6.—Sclater, Proc. Zool. Soc. Lond., 1861, 211 (Guatemala); Cat. Am. Birds, 1862, 244 (Choctum, Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 357 ("Mexico"; Choctum and sources Rio de la Pasion, Guatemala; Tucurriqui, Costa Rica; Calovevora, Santa Fé de Veragua, Volcan de Chiriqui, and Panama City, Panama; Remedios and Nichi, Province Antioquia, Colombia).—Lawrence, Ann. Lyc. N. Y., vii, 1862, 330 (Lion Hill, Panama); ix, 1868, 116 (Angostura, Costa Rica).—Salvin, Proc. Zool. Soc. Lond., 1867, 149 (Santa Fé de Veragua); 1870, 199 (Volcan de Chiriqui, Chitra, Boquete de Chitra, and Calovevora, Panama).—Frantzius, Journ. für Orn., 1869, 309 (Costa Rica).—Wyatt, Ibis, 1871, 334 (near Paturia, Magdalena Valley, Colombia).—Boucard, Proc. Zool. Soc. Lond., 1878, 65 (San Carlos and Naranjo, Costa Rica).—Berlepsch, Journ. für Orn., 1884, 318 (Bucaramanga, Colombia).—Salvin and Godman, Biol. Centr. Am., Aves, ii, 1891, 131.—Richmond, Proc. U. S. Nat. Mus., xvi, 1893, 508 (Rio Frio, Costa Rica; Rio Escondido, Nicaragua).—Underwood, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica).—Bangs, Auk, xviii, 1901, 365 (Divala, Panama).

[*Lipaugus*] *holerythrus* Sclater and Salvin, Nom. Av. Neotr., 1873, 57.—Sharpe, Hand-list, iii, 1901, 168.

[*Lipangus*] *holerythrus* Gray, Hand-list, i, 1869, 372, no. 5645.

Lipangus holerythrus Bangs, Proc. New Engl. Zool. Club, iii, 1902, 40 (Boquete and Volcan de Chiriqui, 5,000 to 6,000 ft., Panama).

L[*ipangus*] *holerythrus holerythrus* Hartert, Bull. Brit. Orn. Club, xvi, no. cxviii, Nov. 1, 1905, in text.

Liparugus holerythrus Bangs, Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Yaruca, Honduras).

Genus LATHRIA Swainson.

Lathria Swainson, Classif. Birds, ii, 1837, 255. (Type, *Ampelis cinerea* Vieillot.)

Rather large Cotingidæ (wing about 115–175 mm.) of plain (dull gray, rufous, or olive-green) coloration (two species with yellow axillars and under wing-coverts, the males with a spot of black or chestnut on crown, that of another with collar and under tail-coverts rose-pink), with second phalanx of outer toe partly adherent to middle toe, planta tarsi essentially pycnaspidean, culmen rather strongly curved, rictal bristles moderately developed, and latero-frontal plumules not forming distinct antrorse tufts.

Bill much shorter than head, broad and slightly depressed basally, but depth and width at nostrils nearly equal (or the latter sometimes more than former); culmen obviously but rather broadly ridged, curved from base, more strongly so terminally, the tip of maxilla

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rather strongly uncinate; gonys about as long as mandibular rami, nearly straight, sometimes with a distinct median ridge; basal width of interramal space about equal to its length; maxillary tomium gently concave for anterior portion, gently or faintly convex posteriorly, with very distinct subterminal notch. Nostril mostly exposed, rather large, roundish or broadly oval, with distinct cartilaginous tubercle showing within upper posterior portion. Rictal bristles distinct, the latero-frontal antiæ also with well-developed bristles in two series, the lower decurved and overlying basal half of maxillary tomia the upper arching over nostrils and base of culmen. Wing moderate, with primaries exceeding secondaries by more than length of exposed culmen; seventh and eighth, or sixth, seventh, and eighth, primaries longest, the tenth equal to or longer than fourth. Tail nearly as long as wing (longer than distance from bend to end of secondaries), nearly even (sometimes faintly emarginate), the rectrices moderately broad, with rounded tip. Tarsus about as long as exposed culmen, or longer, its scutellation essentially pycnaspidean, but acrotarsal scutella occupying less than anterior half on outer side, which sometimes has a single continuous row of large hexagonal scutella; middle toe, with claw, about as long as tarsus, its basal phalanx wholly adherent to outer and at least half united to inner toe; outer toe much shorter than the middle, reaching but little beyond subterminal phalanx of the latter, the inner toe still shorter; hallux about as long as inner toe or a little shorter, its basal pad (tylarus) but very slightly expanded and flattened.

Plumage and coloration.—Contour feathers broad and blended or but faintly outlined, those of the pileum slightly lengthened and more individually defined. Color plain gray, cinnamon-rufous, or olive-green, two species with yellow axillars and under wing-coverts and a crown-spot of black or chestnut, another with a collar round neck and under tail-coverts rose-pink.

Nidification.—(Unknown?)

Range.—Southern Mexico to southeastern Brazil and eastern Ecuador. (Eight species, only one of them occurring north of the Isthmus of Panama.)

KEY TO THE SUBSPECIES OF LATHRIA UNIRUFA.[a]

a. General color paler, more cinnamomeous.

b. Coloration darker or duller, especially on back and chest; larger (male averaging wing 140, tail 108.9; female, wing 134.7, tail 105.2). (Eastern Mexico to Guatemala.).....**Lathria unirufa unirufa** (p. 823)

[a] The several South American species are very differently colored from *L. unirufa*, and having seen only two of them—*L. cinerea* (Vieillot) and *L. fuscocinerea* (Lafresnaye)—I will not venture to include them in the key, especially since I have doubts as to some of them being really referable to this genus.

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bb. Coloration clearer and brighter; smaller (male averaging wing 132.8, tail 104.3; female, wing 127.8, tail 100.1). (Nicaragua to northern Colombia.)
Lathria unirufa clara (p. 824)

aa. General color darker, more castaneous. (Northern Ecuador.)
Lathria unirufa castaneotincta (extralimital)[a]

LATHRIA UNIRUFA UNIRUFA (Sclater).

MEXICAN LATHRIA.

Adults (*sexes alike*).—Above plain deep cinnamon-brown or russet, duller on back, the feathers of pileum with paler shafts, the shafts of rectrices deep reddish brown or chestnut; under parts clear buffy cinnamon, light buffy russet, or dull tawny-ochraceous, the chest darker and duller, with shafts of the feathers paler; axillars under wing-coverts, and greater part of inner web of remiges (except terminally) clear deep ochraceous-buff; maxilla deep horn brownish, madible paler; iris brown; legs and fee grayish brown or dusky (in dried skins).

Adult male.—Length (skins), 236–248 (242); wing, 136.5–144 (140); tail, 104.5–113.5 (108.9); exposed culmen, 20–22 (21.2); tarsus, 21–24.5 (22.9); middle toe, 15.5–17.5 (16.7).[b]

Adult female.—Length (skins), 230–250 (241); wing, 134–135.5 (134.7); tail, 102.5–108 (105.2); exposed culmen, 21–22.5 (21.7); tarsus, 23–24 (23.5); middle toe, 17–18 (17.3).[c]

Southeastern Mexico, in States of Vera Cruz (Playa Vicente; near Orizaba; Tolosa; Buena Vista; Motzorongo), and Tabasco (Teapa) to Guatemala (Choctum; Coban) and British Honduras.

Lipaugus unirufus SCLATER, Proc. Zool. Soc. Lond., 1859, 385 (Playa Vicente, Vera Cruz; coll. P. L. Sclater); 1861, 211 (s. Mexico; Guatemala); Cat. Am. Birds, 1862, 244 (Choctum, Guatemala).—SALVIN and SCLATER, Ibis, 1860, 36 (Coban, Guatemala).—SCLATER and SALVIN, Exotic Orn., pt. i, 1866, 1, 6, pl. 1.—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 558 (Vera Cruz, Mexico).

[*Lipangus*] *unirufus* GRAY, Hand-list, i, 1869, 373, no. 5653.

[*Lathria*] *unirufa* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.—SHARPE, Hand-list, iii, 1901, 167, part.

Lathria unirufa SCLATER, Cat. Birds, Brit. Mus., xiv, 1888, 353, part (Choctum, Guatemala; British Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 129, part.

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[a] *Lathria unirufus castaneotinctus* Hartert, Novit. Zool., ix, no. 3, Dec., 1902, 610 (Rio Durango, n. w. Ecuador, 3,500 ft. alt.); Bull. Brit. Orn. Club, xvi, 1905, 13, in text.

[b] Ten specimens.

[c] Three specimens.

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LATHRIA UNIRUFA CLARA Ridgway.

PANAMA LATHRIA.

Similar to *L. u. unirufa*, but general coloration decidedly clearer or brighter, inclining (more or less) to dull cinnamon-rufous, the under parts to clear tawny-ochraceous; averaging smaller.

Adult male.—Length (skins), 215–251 (228); wing, 127–141.5 (132.8); tail, 97–111 (104.3); exposed culmen, 20–23 (21.2); tarsus, 20–23 (21.8); middle toe, 14.5–17 (16.2).[a]

Adult female.—Length (skins), 211–239 (223); wing, 122.5–134.5 (127.8); tail, 95.5–108 (100.1); exposed culmen, 20–22 (21); tarsus, 20–23 (21.5); middle toe, 15–17 (16.1).[b]

Nicaragua (Chontales; Rio Escondido, Los Sábalos); Costa Rica (Pirris; Pozo Azul de Pirris; Guapiles; Guacimo; Rio Sicsola; Dos Novillas; Carrillo; Jiménez; Pacuare; Reventazón), Panama (Panama City; Chepo; Divala; Bugaba; Santiago de Veragua); and northern Colombia (Turbo; Rio Truando; Remédios and Neche, Antioquia).

Lipaugus unirufus (not of Sclater) CASSIN, Proc. Sc. Nat. Sci. Phila., 1860, 143 (Turbo and Rio Truando, n. Colombia).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 330 (Panama Railway).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 361 (Panama Railway); 1867, 279 (Blewfields R., Nicaragua).—SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Santiago de Veragua, Panama); 1870, 199 (Bugaba, Panama); Ibis, 1872, 318 (Chontales, Nicaragua).

[*Lathria*] *unirufa* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.—SHARPE, Hand-list, iii, 1901, 167, part

Lathria unirufa SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 518 (Remedios and Neche, Antioquia, Colombia).—NUTTING, Proc. U. S. Nat. Mus., vi, 1883, 404 (Los Sábalos, Nicaragua).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 353; part (Chontales, Nicaragua; Bugaba, Panama City, and Chepo, Panama; Remedios and Neche, Colombia).—SALVIN and GODMAN, Biol. Centr.-Am.,

[a] Fourteen specimens.

[b] Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males (*L. u. unirufa*) from Mexico	140	108.9	21.2	22.9	16.7
Six adult males from eastern Costa Rica	135.3	105.6	21.5	22.3	16.5
Six adult males from southwestern Costa Rica (3) and Panama (3)	130.8	102.9	20.8	21.5	16.2
Two adult males from northern Colombia	131	104.7	.....	.....	.....
FEMALES.					
Three adult females (*L. u. unirufa*) from Mexico	134.7	105.2	21.7	23.5	17.3
Four adult females from Nicaragua (1) and eastern Costa Rica (3)	130.1	101.1	21.2	22	16.2
Six adult females from southwestern Costa Rica (4) and Panama (2)	127.1	99.2	20.9	21.2	16.1
One adult female from northern Colombia	123	101	.....	.....	.....

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Aves, ii, 1891, 129, part.—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 508 (Rio Escondido, Nicaragua).—BANGS, Auk, xviii, 1901, 365 (Divala, Chiriqui, Panama).

Lathria unirufa clara RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 120 (Panama; coll. U. S. Nat. Mus.).

Genus PACHYRHAMPHUS Gray.

Pachyrhynchus (not of Wagler, 1822) SPIX, Av. Bras., ii, 1825, 31. (Type, by elimination, *Platyrhynchos polychropterus* Vieillot or *Muscicapa rufa* Boddaert.)

Pachyrhamphus GRAY, List Gen. Birds, 1840, 31. (Type, *Tityra viridis* Vieillot.)

Pachyramphus BONAPARTE, Consp. Av., i, 1850, 180.

Bathmidurus CABANIS, Wiegmann's Archiv. für Naturg., xiii, pt. i, 1847, 243. (Type, *Lanius atricapillus* Gmelin.)

Chloropsaris KAUP, Proc. Zool. Soc. Lond., 1851, 45. (Type, *Psaris cuvierii* Swainson, = *Tityra viridis* Vieillot.)

Callopsaris BONAPARTE, Ann. Sci. Nat., sér. 4, Zool., i, 1854, 134. (Type, *Vireo versicolor* Hartlaub.)

Zetetes[a] CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 87. (Type, *Pachyrhynchus niger* Spix.)

Climacocercus (not of Cabanis, 1844) BERTONI, Aves Nuev. Paraguay, 1901, 112. (Type, "*Thamnophilus cyanocephalus* Vieillot," not of Vieillot, = *Platyrhynchos polychropterus* Vieillot.)

Small Cotingidæ (wing about 65–80 mm.), closely allied to *Platypsaris*, but with tail more strongly rounded (almost graduated in some species), bill relatively shorter, broader, and more depressed, and adult males with abbreviated ninth primary more sharply acuminate at tip, sometimes emarginate at end, with outer point subfalcate; coloration usually more varied, though sometimes plain cinnamon-rufous in both sexes.

Bill much shorter than head, broadly cuneate in vertical profile, the lateral outlines straight or very faintly convex, its width at nostrils considerably greater than its depth at same point; culmen more or less distinctly ridged, nearly straight for most of its length, rather strongly decurved terminally, the tip of maxilla distinctly but not conspicuously uncinate; gonys more or less distinctly convex, much longer than mandibular rami, obsoletely or not at all ridged medially; maxillary tomium nearly straight, distinctly notched subterminally. Nostril partly covered by antrorse small bristly feathers of latero-frontal antiæ, small, roundish, with narrow superior and posterior membrane. Rictal bristles well developed. Wing moderate, with longest primaries exceeding secondaries by more than length of exposed culmen; seventh and eighth primaries longest, the sixth and tenth, successively, shorter, the ninth (in adult males only) only about half as long as eighth (or a little more), acuminate at tip, or sometimes emarginate, with outer point longer and subfalcate. Tail nearly (sometimes quite) as long as wing to end of secondaries, more or less rounded, sometimes very much so,

[a] "ζητητης (von ζητέω, durchsuchen) = *Inquisitor*."

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the rectrices moderately broad, with rounded or subacuminate tip. Tarsus nearly as large as commissure, its scutellation quasi-taxaspidean, though with inner side of planta tarsi sometimes nonscutellate; middle toe, with claw, decidedly shorter than tarsus, its basal phalanx wholly adherent to outer and for at least half its length to inner toe; hallux slightly shorter than inner toe but decidedly stouter, its basal pad (tylarus) only slightly expanded and flattened.

Plumage and coloration.—Contour feathers broad and blended, those of the pileum, however, elongated and more or less distinctly outlined, capable of erection into a bushy crest. Adult males usually varied in color, the pileum (sometimes back also) glossy black, rest of upper parts gray or mixed black and gray, with white wing-edgings, the under parts gray or whitish; sometimes the upper parts (except pileum) plain olive-green (with or without gray on hindneck), one species with breast and under wing-coverts yellow; in one species the under parts barred with blackish. Adult females and young males (adult males also in one species) plain cinnamon-rufous above (at least in part) paler or buffy below.

Nidification.—Nest (of *P. polychropterus cinereiventris*) in trees, bulky, with entrance near top, composed of grasses, plant-stems, etc. Eggs (of same species) grayish, mottled or blotched with darker.[a]

Range.—Northern Mexico to southeastern Brazil, northern Argentina, and western Ecuador. (About twenty species and subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF PACHYRHAMPHUS.

a. Back black or gray; under parts gray, gray and white, or black, or if yellowish the under surface barred and sides of head and neck yellowish.

b. Sides of head and neck black or gray; under parts not barred.

c. Tail black with broad white tips to lateral rectrices; back with more or less of black, or else middle wing-coverts black at base and broadly tipped with white.

d. Hindneck black, like back; under parts slate-gray or darker. (*Pachyrhamphus polychropterus.*)

e. Under parts slate-gray or plumbeous.

f. Slightly larger (wing averaging 75.5, tail 56.5). (Southern Brazil and northern Argentina.)

Pachyrhamphus polychropterus polychropterus, adult male (extralimital).[b]

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[a] Richmond, Proc. U. S. Nat. Mus., xvi, 1893, 508.

[b] *Platyrhynchos polychropterus* Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 10 ("Nouvelle-Hollande;" coll. Paris Mus.).—*Pachyrhamphus polychropterus* Sclater, Proc. Zool. Soc. Lond., 1857, 77; Cat. Birds Brit. Mus., xiv, 1888, 345.—*Pachyrhamphus niger polychropterus* Allen, Bull. Mus. N. H., ii, Dec., 1889, 238.—*Z[etetes] polychropterus* Cabanis and Heine, Mus. Hein., ii, 1859, 87 (Rio Grande do Sul).—*Platyrhynchus variegatus* Spix, Av. Bras., ii, 1825, 31, pl. 43, fig. 2 (=young female).—*B[athmidurus] variegatus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 244.—*Muscipeta splendens* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 906 (Brazil; type now in coll. Am. Mus. N. H.).—*Pachyrhynchus spixii* Swainson, Anim. in Menag., Jan. 1, 1838, 289 (Brazil ?).—*Ps[aris] marginatus tristis* Kaup, Proc. Zool. Soc. Lond., 1851, 48 (no locality given).—*Climacocercus cyanocephalus* Bertoni, Av. Nuev. Parag., 1901, 327.

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ff. Slightly smaller (wing averaging less than 72, tail less than 55 mm.).

g. Under parts lighter gray (as in *P. p. polychropterus*); wing averaging 70.9, tail 54.9. (Colombia to western Nicaragua.)

Pachyrhamphus polychropterus cinereiventris, adult male (p. 829)

gg. Gray of under parts darker; wing averaging 71.1, tail 54.9. (Eastern Costa Rica to Honduras; Guatemala?)

Pachyrhamphus polychropterus similis, adult male (p. 832)

ee. Under parts black or blackish slate color. (Amazon Valley to Guiana, Venezuela, Trinidad, and Tobago.)

Pachyrhamphus polychropterus niger, adult male (extralimital)[a]

dd. Hindneck gray.

e. Forehead entirely black.

f. Gray of hindneck, rump, and under parts deeper, the chin, throat, and under tail-coverts decidedly gray; averaging smaller (wing averaging 73.3). (Panama to central Colombia.)

Pachyrhamphus dorsalis, adult male (p. 832)

ff. Gray of hindneck, rump, and under parts paler, the chin, throat, and under tail-coverts nearly (sometimes quite) white; averaging larger (wing averaging more than 76 mm.). (*Pachyrhamphus major.*)

g. Under parts decidedly gray, only the chin, upper throat, and under tail-coverts whitish; larger (wing averaging 81.8, tail 62.7 mm.). (Eastern Mexico to Guatemala.)

Pachyrhamphus major major, adult male (p. 833)

gg. Under parts white medially, shaded with very pale gray laterally and (sometimes) across chest; smaller (wing averaging 76.3, tail 57.2 mm.), or else upper tail-coverts and lower rump partly white.

h. Larger (wing 84, tail 65 mm.); upper tail-coverts and lower rump partly white; whole interscapular region uniform black. (Western Mexico.). **Pachyrhamphus major uropygialis**, adult male (p. 836)

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[a] *Pachyrhynchus niger* Spix, Av. Bras., ii, 1825, 33, pl. 45, fig. 1 (no locality given).—*Pachyrhamphus niger* Sclater, Cat. Am. Birds, 1862, 241; Cat. Birds Brit. Mus., xiv, 1888, 343.—*Psaris niger* Swainson, Zool. Journ., ii, 1827, 356; Bonaparte, Consp. Av., i, 1850, 181.—*B[athmidurus] niger* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 243.—*Z[etetes] niger* Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 87.—*Pachyrhamphus nigriventris* Sclater, Proc. Zool. Soc. Lond., 1857, 76 (new name for *Pachyrhynchus niger* Spix).—(?) *Pachyrhamphus polychropterus* (not *Platyrhynchos polychropterus* Vieillot?) Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 579 (Mexiana I., Lower Amazon).—*Pachyrhamphus polychropterus cinereiventris* (not *P. cinereiventris* Sclater?) Phelps, Auk, xiv, Oct., 1897, 365 (Cumanacoa and San Antonio, Venezuela); Chapman, Auk, xiv, 1897, 369 (Cumanacoa; crit.).—*Pachyrhamphus niger cinereiventris* Hellmayr, Novit. Zool., Feb., 1906, 27 (Caparo and Pointe Gourde, Trinidad; crit.).

According to Hellmayr (as cited above) the dark-colored birds of this species from Trinidad are not the same as those from the Upper Amazon Valley (true *P. p. niger*), which, together with specimens from Cumaná and the Orinoco Valley, Venezuela, Tobago, and Bogota, are, according to the same author, identical in coloration with the type of *P. cinereiventris* Sclater, from Santa Marta. I can not understand this, for all of the considerable series of specimens that I have seen from the islands of Trinidad and Tobago are easily distinguished from mainland examples by their much darker (blackish or blackish-clouded) under parts, while from Bogota I have only seen *P. dorsalis* Sclater, a bird with very *pale* gray under parts and a gray collar across the hindneck. In fact, I have only seen one example from any part of Colombia that is as dark beneath as birds from Venezuela, the one in question being among a large series of specimens from Bonda and other places in Santa Marta, which, except for this one specimen, are all similar to the birds from Panama, Costa Rica, and Nicaragua (Pacific slope).

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hh. Smaller (wing 73.5–79.5, tail 54.5–57.2 mm.); rump and upper tail-coverts uniform pale gray; interscapular region never (?) wholly black, often with little black, sometimes wholly gray. (Yucatan.).....**Pachyrhamphus major itzensis**, adult male (p. 836)

ee. Forehead with a narrow but very distinct anterior marginal band of pale gray (confluent with a supraloral stripe of the same color).

f. Interscapular region partly black; under parts uniform pale gray. (Venezuela, Guiana, and Amazon Valley to southeastern Brazil.)

Pachyrhamphus atricapillus, adult male (extralimital)[a]

ff. Interscapular region wholly uniform gray; under parts white medially (shaded with pale gray on chest). (Nicaragua to Ecuador and Venezuela.)..**Pachyrhamphus albo-griseus albo-griseus**, adult male (p. 836)

cc. Tail gray (like back, etc.), the rectrices with a very narrow (if any) terminal margin of white; back wholly uniform gray; middle wing-coverts gray (sometimes narrowly margined with white). (Panama to Guiana and Lower Amazon Valley.).....**Pachyrhamphus cinereus**, adult male (p. 838)

bb. Sides of head and neck olive-yellow; under parts barred (more or less distinctly) with dusky. (Costa Rica to Venezuela and Ecuador.)

Pachyrhamphus versicolor, adult male (p. 843)

aa. Back rufous-tawny, rufous-brown, olive, or olive-green; under parts buff, ochraceous or yellowish.

b. Tail wholly rufous-brown or rufous-tawny, like rest of upper parts.

c. Nuchal collar and sides of occiput gray. (Venezuela to southern Brazil.)

Pachyrhamphus rufus, adult male and female (extralimital)[b]

cc. No gray on head.

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[a] ?[*Lanius*] *atricapillus* Gmelin, Syst. Nat., i, pt. i, 1788, 302 (Surinam; based on Merrem, Beytr., ii, 30, pl. 10).—*B*[*athmidurus*] *atricapillus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 245.—*Pachyrhamphus atricapillus* Sclater, Cat. Am. Birds, 1862, 242; Cat. Birds Brit. Mus., xiv, 1888, 347.—*T*[*odus*] *marginatus* Lichtenstein, Verz. Doubl., 1823, 51 (Bahia, Brazil; coll. Berlin Mus.; =adult female).—*Muscipeta marginata* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 909 (Brazil; type now in coll. Am. Mus. N. H.).—*T*[*odus*] *marginatus* Lichtenstein, Verz. Doubl., 1823, 51 (Bahia).—*Pachyrhynchus marginatus* D'Orbigny, Voy. Amér. Mérid., Ois., 1839, 303, pl. 31.—*P*[*achyrhamphus*] *marginatus* Hartlaub, Syst. Verz., 1844, 50 (Brazil).—*Pachyrhamphus marginatus* Sclater, Proc. Zool. Soc. Lond., 1857, 77.—[*Psaris*] *marginatus* Bonaparte, Consp. Av., i, 1850, 181 (Brazil).—*Bathmidurus marginatus* Burmeister, Syst. Ueb. Th. Bras., ii, 1856, 451.—*P*[*achyrhamphus*] *atricapillus marginatus* Berlepsch, Journ. für Orn., xxxvii, July, 1889, 303, in text; Hartert, Kat. Vogelsaml. Senckenb., 1901, 105 (Brazil).—*Pachyrhynchus swainsonii* Jardine and Selby, Illustr. Orn., ii, 1829, Add., no. 6.—*Pachyrhynchus albifrons* Swainson, Anim. in Menag., 1838, 289.

[b] *Muscicapa rufa* Boddaert, Tabl. Pl. Enl., 1783, 27 (Cayenne; based on *Gobemouche roux de Cayenne* Daubenton, Pl. Enl., pl. 453, fig. 1).—*Pachyrhamphus rufus* Berlepsch, Journ. für Orn., 1873, 264; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 343.—[*Muscicapa*] *rufescens* Gmelin, Syst. Nat., i, pt. ii, 1788, 932 (based on *Gobe-mouche roux de Cayenne* Buffon, Hist. Nat. Ois., iv, 549; Pl. Enl., 453, fig. 1).—*Platyrhynchus rufescens* Spix. Av. Bras., ii, 1825, 34, pl. 46, fig. 2.—*Pachyrhamphus rufescens* Sclater, Proc. Zool. Soc. Lond., 1857, 79.—*Tityra castanea* Jardine and Selby, Illustr. Orn., i, pt. i, Dec., 1826, pl. 10, fig. 2.—*Muscipeta aurantia* Maximilian, Beitr. Naturg. Bras., iii, pt. ii, 1831, 911 (Brazil; type now in coll. Am. Mus. N. H.).—*Pachyrhynchus ruficeps* Swainson, Anim. in Menag., Jan. 1, 1838, 288 (Brazil).—(?)*Pachyrhamphus intermedius* Berlepsch, Orn. Centralbl., 1879, 63 (San Esteban and Puerto Cabello, Venezuela; coll. H. von Berlepsch).—*Hadrostomus borellianus* Bertoni, Av. Nuev. Parag., 1901, 108.

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d. Larger (wing 72.5–83, tail 52–61); general color usually much darker or deeper, the under parts more ochraceous. (Southern Mexico to Ecuador.)
Pachyrhamphus cinnamomeus, adult male and female (p. 840)

dd. Smaller (wing 66–70, tail 46–50 mm.); general color paler, the under parts more buffy ..... **Pachyrhamphus cinereus**, adult female (p. 839)

bb. Tail not wholly rufous-brown or rufous-tawny.

c. Tail partly black, with terminal portion rufous-tawny, cinnamomeous, or buffy; under parts not barred.

d. Pileum black or black and rusty; back tawny or tawny brown.
Pachyrhamphus major major, adult female and young (p. 834)[a]

dd. Pileum not black or partly black; back olive or olive-greenish.

e. Pileum rufescent or rufescent brown.

f. A conspicuous black border to the rufous-brown pileum. (Costa Rica to Colombia.)... **Pachyrhamphus ornatus**, adult female and young (p. 842)[b]

ff. No black margin to the rufous-brown pileum.
Pachyrhamphus atricapillus, adult female (extralimital).

ee. Pileum olive, not conspicuously (if at all) different from color of back.
Pachyrhamphus polychropterus cinereiventris, adult female and young (pp. 830, 831)[c]

cc. Tail grayish brown (without black), the rectrices indistinctly edged with olive-greenish; under parts more or less distinctly barred.
Pachyrhamphus versicolor, adult female and young (p. 844)

PACHYRHAMPHUS POLYCHROPTERUS CINEREIVENTRIS (Sclater).

GRAY-BELLIED BECARD.

Adult male.—Pileum and nape black, the tips of the distinctly outlined feathers glossy blue-black or dark steel blue; hindneck and back uniform black; rump and upper tail-coverts plain slate-gray or plumbeous-gray, the upper portion of the former sometimes black, like the back; tail black, the lateral rectrices broadly tipped with white, this much more extensive on outermost rectrix where occupying decidedly more of the outer than of inner web, decreasing gradually but rapidly in extent toward the middle rectrices, which are sometimes narrowly tipped with white, sometimes wholly black; scapulars with outer webs white, forming a conspicuous broad stripe along each side of back; wings black, the middle and greater coverts broadly tipped with white (forming two conspicuous bands), the secondaries (sometimes greater coverts also) more or less distinctly edged (except basally) with white, and outer web of outermost primary edged with white; sides of head (including loral, suborbital, auricular, and malar regions), sides of neck, and entire under parts plain slate-gray or plumbeous-gray, slightly paler posteriorly, especially on abdomen, where sometimes faintly flecked or barred with paler gray; axillars

[a] I have not a sufficient series of specimens to enable me to define the several geographic forms satisfactorily.

[b] This is possibly the female of *P. albo-griseus* or *P. dorsalis;* if not, the adult male is unknown.

[c] The females and young of *P. polychropterus* and its several geographic forms are so much alike in coloration that without a larger series of specimens I am unable to differentiate them satisfactorily.

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and under wing-coverts varying from uniform deep slate-gray to paler gray more or less margined and freckled on terminal portion with paler gray or gray white; inner webs of remiges broadly edged with white; bill grayish dusky (sometimes drying partly whitish) in dried skins, grayish blue in life; iris brown; legs and feet dusky (grayish blue or bluish gray in life); length (skins), 118-145 (134); wing, 67–75.5 (70.9); tail, 51.5–56 (54.1); exposed culmen, 12–13.5 (12.8); tarsus, 16.5–19 (17.8); middle toe, 10–11.5 (11.1).[a]

Adult female.—Pileum and nape plain olive or grayish olive; back, scapulars, rump, and upper tail-coverts plain greenish olive, sometimes slightly tinged with cinnamon-brownish, especially on scapulars; middle rectrices rather light grayish brown, becoming darker terminally or subterminally, with or without a small terminal spot of buffy; other rectrices brownish black or dusky becoming grayish brown basally, their terminal portion abruptly buff (more or less deep), this on outermost rectrix occupying approximately terminal third of inner and terminal half of outer web, decreasing gradually but rapidly in extent toward middle pair; wing dark grayish brown or dusky, the middle and greater coverts broadly tipped with buff (more or less deep), the secondaries (except basally) and greater coverts edged with the same, these edgings much broader and sometimes whitish on inner secondaries (tertials), the primaries (at least in part) narrowly edged with dull pale buffy or dull whitish; sides of head and neck light olive, the auricular region with narrow whitish shaft-streaks, the lores mostly dull whitish; under parts light or pale yellow (pale primrose to sulphur), shaded laterally with light olive, especially on sides of chest; axillars and under wing-coverts pale (primrose) yellow; inner webs of remiges edged with pale buff-yellow; bill, iris, legs, and feet as an adult male; length (skins), 126–140 (135); wing, 64.5–70 (68.1); tail, 44.5–53 (50.3); exposed culmen, 12–14 (12.6); tarsus, 16.5–19 (17.6); middle toe, 10.5–12 (11.2).[b]

[a] Twenty-two specimens.

[b] Nine specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Colombia (Santa Marta)	72.4	53.4	12.9	17.6	11
Eight adult males from Panama	69.7	54.8	12.7	18.2	11.1
Four adult males from western Costa Rica	71	54	12.8	19	11.5
One adult male from western Nicaragua (Sucuyá)	71.5	53	13	18.5	10
FEMALES.					
Six adult females from Colombia (Santa Marta)	68.5	50.7	12.5	17.2	11.1
Two adult females from Panama	65.7	47.2	12.2	18.2	11.2
One adult female from western Costa Rica (Pozo Azul)	70	53	14	18.5	12

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Young (both sexes).—Similar to the adult female, but olive of upper parts browner and buff markings of wings and tail averaging deeper (buff to tawny-ochraceous).

Pacific slope of Nicaragua (Sucuyá) and Costa Rica (Angostura; Barranca; San Mateo; Guacimo; Pozo Azul de Pirris) and southward through Panama (Bugaba; Calovevora; Santa Fé de Veragua; Boquete; Chitra; Divala; Lion Hill; Panama City; Natá-Coclé) to northern Colombia (Bonda, Santa Marta, Cacagualito, Cienega, and Valparaiso, Santa Marta; Antioquia).[a]

Pachyrhamphus cinereiventris SCLATER, Cat. Am. Birds, 1862, 242 (Santa Marta, Colombia; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 344, part (Santa Marta and Antioquia, Colombia; Lion Hill, Panama City, Calovevora, Bugaba, Chiriqui, and Santa Fé de Veragua, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 361 (Lion Hill, Panama; crit.); 1879, 518 (Antioquia, Colombia).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (Barranca, Angostura, and San Mateo, Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (Santa Fé de Veragua; crit.); 1870, 199 (Calovevora and Bugaba, Panama); Cat. Strickland Coll., 1882, 324.—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 65 (San Mateo, Costa Rica).—NUTTING, Proc. U. S. Nat. Mus., vi, 1884, 385 (Sucuyá, Nicaragua).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 127, pl. 43, fig. 1, part (Angostura, San Mateo, and Barranca, Costa Rica; Sucuyá, Nicaragua; Bugaba, Calovevora, and Santa Fé de Veragua, and Lion Hill, Panama; Colombia).—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 343 (Costa Rica; crit.).—RIDGWAY, Proc. U. S. Nat. Mus., xvi, 1893, 611 (Costa Rica; crit.)—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 154 (Bonda, etc., Santa Marta, Colombia); xxi, 1905, 287 (Bonda; descr. nest and eggs).—BANGS, Auk, xviii, 1901, 365 (Divala, Panama); Proc. New Engl. Zool. Club, iii, 1902, 40 (Boquete, 4,000 ft., and Bogaba, Panama).

[*Pachyrhamphus*] *cinereiventris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56.—SHARPE, Hand-list, iii, 1901, 165.

[*Tityra*] *cinereiventris* GRAY, Hand-list, i, 1869, 369, no. 5608.

Pachyrhamphus niger (not *Pachyrhynchus niger* Spix) SALVIN and GODMAN, Ibis, 1880, 169 (Santa Marta, Colombia).

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[a] Venezuelan specimens are included in the range of this form by Chapman (Auk, xiv, 1897, 369) and those from Trinidad by Hellmayr (Novit. Zool., xiii, 1906, 27); but I can not agree to this. Phelps' specimens from Cumanacoa and San Antonio, Venezuela, are before me, and while they certainly are not typical *P. p. niger*, they are, in my judgment, nearer that form than *P. p. cinereiventris*. All of a considerable series from Trinidad are certainly *much* nearer to the former than to the latter. A single specimen from Bonda, Santa Marta, Colombia, is precisely like Venezuelan specimens in coloration, all the others examined being typical *cinereiventris*. In other words, while these dark colored birds from Trinidad and Venezuela very likely are not true *P. p. niger*, as Hellmayr insists, they certainly are not the same form as the "common run" of Colombian birds (precisely like those from Panama and the Pacific slope of Costa Rica and Nicaragua) which we have been accustomed to call *P. cinereiventris*. Evidently, therefore, if, as Hellmayr states, the type of *P. cinereiventris* agrees with the Venezuela and Trinidad specimens it will be necessary to give a new name to the form which I here call *P. p. cinereiventris*.

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PACHYRHAMPHUS POLYCHROPTERUS SIMILIS (Cherrie).

SLATE-BELLIED BECARD.

Similar to *P. p. cinereiventris*, but darker, the under parts darker and more uniform slate-gray, the black of back invading more or less of the rump, even the lower rump and upper tail-coverts sometimes streaked or otherwise marked with black; averaging slightly larger, with relatively broader bill.

Adult male.—Length (skins), 128–153 (136); wing, 67.5–73 (71.1); tail, 54–56.5 (54.9); exposed culmen, 13–13.5 (13.2); tarsus, 17–19.5 (18.4); middle toe, 11–12 (11.3).[a]

Adult female.—Length (skins), 126–131 (128); wing, 70–71.5 (70.7); tail, 52–55 (53); exposed culmen, 12–14 (12.7); tarsus, 17–19 (18); middle toe, 10.5–11 (10.7).[b]

Atlantic slope of Costa Rica (Jiménez), Nicaragua (Greytown; Rio Escondido), and Honduras (Santa Ana); Atlantic slope of Guatemala (Choctum)?.

(?) *Pachyrhamphus cinereiventris* (not of Sclater, 1862?) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 344, part (Choctum, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 127, part (Choctum, Guatemala).

Pachyrhamphus cinereiventris RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 508 (Greytown and Rio Escondido, Nicaragua; descr. nest and eggs).

Pachyrhamphus similis CHERRIE, Proc. U. S. Nat. Mus., xiv, no. 855, Sept. 4, 1891, 343, in text (Greytown, Nicaragua; coll. U. S. Nat. Mus.).

[*Pachyrhamphus*] *similis* SHARPE, Hand-list, iii, 1901, 165.

Pachyrhamphus polychropterus? LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 182 (Greytown, Nicaragua).

Pachyrhamphus major (not *Bathmidurus major* Cabanis) SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 127, part (Greytown, Nicaragua).

PACHYRHAMPHUS DORSALIS Sclater.

BOGOTÁ BECARD.

Similar to *P. atricapillus* (Gmelin),[c] but interscapular region uniform black, loral region darker gray (becoming black immediately in front of eye), and without a grayish white or pale gray band across anterior portion of forehead; in these characters agreeing with *P. polychropterus* and *P. p. cinereiventris* but differing in very much paler gray of under parts, lores, and rump, and in separation of black of pileum from that of the back by a gray collar across hindneck.

Adult male.—Pileum and nape black, the tips of the distinctly outlined feathers glossy blue-black or dark steel blue; interscapular region uniform black, separated from black of pileum and nape by a gray collar across hindneck; whole rump and upper tail-coverts plain gray (between no. 6 and slate-gray); tail black, the rectrices edged basally (more or less distinctly) with gray and abruptly tipped with white, this on outermost rectrix occupying, approximately, one-third of outer and one-fourth of inner web, on other rectrices decreasing grad-

[a] Seven specimens. [b] Three specimens. [c] See p. 828.

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ually but rapidly in extent toward middle pair, which usually (but not always) have a very small terminal spot of white; outer webs of scapulars white, forming a conspicuous broad stripe on each side of back; wings black, the middle coverts broadly tipped with white (forming a conspicuous band), the greater coverts edged with white (more broadly at tip and on innermost coverts), the secondaries edged with white (broadly so on tertials), the primaries very narrowly edged with pale gray, the outer web of outermost one conspicuously edged with white; sides of head and neck gray (about no. 6), fading into paler gray (no. 8 or no. 9) on under parts, the latter fading into grayish white on abdomen and under tail-coverts; lores gray, with a more or less distinct black spot against anterior angle of eye; axillars and under wing-coverts very pale gray or grayish white; inner webs of remiges broadly edged with white, that of the ninth (abbreviated) primary wholly white; maxilla blackish or dusky (sometimes paler in dried skins), probably bluish gray in life; mandible paler (light bluish gray in life?); legs and feet dusky olive in dried skins (bluish gray or grayish blue in life?); length (skins), 126–143 (133); wing, 68[a]–81 (76.1); tail, 58–61 (59); exposed culmen, 12.5–13.5 (12.9); tarsus, 18.5–19.5 (18.9); middle toe, 11–12 (11.5).[b]

Eastern portion of Isthmus of Panama (line of Panama Railway) to Colombia (Bogotá; Rio Cali; Rio Barratoro; Castilla).

Pachyrhamphus dorsalis SCLATER, Cat. Am. Birds, 1862, 243 (Bogotá, Colombia; coll. P. L. Sclater).

[*Tityra*] *dorsalis* GRAY, Hand-list, i, 1869, 369, no. 5613.

Pachyrhamphus marginatus? (not *Todus marginatus* Lichtenstein) LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 330 (Panama).

Pachyrhamphus cinereiventris (not of Sclater, 1862) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 344, part (Bogotá).

PACHYRHAMPHUS MAJOR MAJOR (Cabanis).

MEXICAN BECARD.

Adult male.—Pileum and nape black, the tips and edges of the distinctly outlined feathers glossy blue-black or dark steel blue; interscapular region black, faintly glossed with bluish, the feathers slate-gray beneath the surface (these usually showing through, more or less); a gray collar across hindneck (some of the feathers usually having the tip black); scapulars white, the posterior feathers mixed, more or less, with black; rump and upper tail-coverts plain gray (no. 6 or light slate-gray); tail black, abruptly tipped with white (the white much broader on outermost rectrix and narrowing gradually, but rapidly, to the middle pair, on which the white is reduced to a very small terminal spot), all the rectrices, except outer pair,

[a] In the specimen (from Panama) showing this minimum wing-measurement the primaries belong to the immature dress and are besides somewhat worn; the measurement is therefore not a fair one for comparison.

[b] Five specimens.

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becoming gray basally on outer web, the middle pair having the greater part of both webs gray; wings black, the middle coverts broadly tipped with white (forming a conspicuous band), the greater coverts edged with white (more broadly at tip and on innermost coverts), the secondaries edged (except basally) with white, more broadly and continuously so on the innermost (tertials), the primaries very narrowly edged with white or pale gray; sides of head (including greater part of loral region) and neck and under parts plain light gray (about no. 9), fading into white or grayish white on chin and more or less of upper throat, the under tail-coverts white; axillars and under wing-coverts very pale gray, usually indistinctly freckled or barred terminally with white; inner webs of remiges broadly edged with white; bill dusky (grayish blue or bluish gray in life), with paler (often whitish) tip and tomia; iris brown; legs and feet dusky horn color (more or less bluish in life?); length (skins), 135–163 (147); wing, 74–87 (81.8); tail, 58–66.5 (62.7); exposed culmen, 13.5–15.5 (14.3); tarsus, 18.5–20.5 (19.9); middle toe, 11.5–12.5 (12).[a]

Adult female.—Pileum and nape with tips of feathers glossy blue-black, the mesial and basal portions dull black or rusty brown; anterior portion of forehead light rusty brown or cinnamon, more or less spotted with black; back, scapulars, rump, and upper tail-coverts plain light buff-tawny or cinnamon-ochraceous, the extreme upper back slightly duller (browner); tail and wings as in the adult male, but with buff-tawny or tawny-buff replacing the white and gray; sides of head, and neck and collar across hindneck, plain buff or tawny-buff; under parts varying from tawny-buff to almost primrose yellow, shading into deeper tawny-buff or somewhat olivaceous buff laterally; axillars and under wing-coverts pale cream-buff to deep buff; inner webs of remiges broadly edged with light ochraceous-buff; bill, iris, and feet as in adult male; length (skins), 136–164 (151); wing, 76–84.5 (80.5); tail, 58–65 (61.5); exposed culmen, 13.5–15.5 (14.3); tarsus, 19–21 (20.1); middle toe, 11.5–12.5 (11.8).[b]

[a] Fifteen specimens.

[b] Twelve specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Mexico (Nuevo Leon and Vera Cruz)	83.8	64.1	14.4	20.1	12.1
Five adult males from Guatemala	77.8	60	14.2	19.5	11.9
FEMALES.					
Eight adult females from Mexico (Nuevo Leon and Vera Cruz)	81.8	62.8	14.6	20.3	11.9
Four adult females from Guatemala	77.7	59	13.7	19.9	11.6

Besides averaging smaller than specimens from Mexico, Guatemalan examples, as a rule, have the interscapular area less solidly black and the under parts very slightly

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Eastern Mexico, in States of Nueva Leon (Boquillo; Boque Negro; San Pedro Mines), Tamaulipas (Sierra Madre, near Victoria), Vera Cruz (Jalapa; Mirador; Pasa Neuva), Puebla (Huatusco), Mexico (near City of Mexico, and Oaxaca (La Parada), and southward through Guatemala (Coban; Choctum; Dueñas; Calderas; Medio Monte; Uspantán and Nebaj, Quitché) to northern Honduras (Omoa).

B[athmidurus] major CABANIS, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 246 (Jalapa, Vera Cruz; coll. Berlin Mus.?).

Bathmidurus major BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 165 (Boquillo, Nuevo Leon); ed. 1860 (Birds N. Am.), 166, pl. 47, fig. 2 (female); Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 7, pl. 19, fig. 2 (Boquillo, Nuevo Leon); Cat. N. Am. Birds, 1859, no. 121.—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 558 (Vera Cruz).

B[athmidurus] maior CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 89 (Jalapa, Vera Cruz).

[*Bathmidurus*] *maior* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 149 (La Parada, Oaxaca; Jalapa, Vera Cruz).

[*Psaris*] *maior* BONAPARTE, Consp. Av., i, 1850, 181.

Ps[aris] marginatus major KAUP, Proc. Zool. Soc. Lond., 1851, 48 (descr.).

Pachyrhamphus major SCLATER, Proc. Zool. Soc. Lond., 1857, 78 (monogr.), 204 (Jalapa, Vera Cruz); 1858, 97 (s. Mexico; crit.); 1859, 366 (Jalapa); 1864, 176 (City of Mexico); Cat. Am. Birds, 1862, 242 (Mexico; Guatemala); Cat. Birds Brit. Mus., xiv, 1888, 346, part (near City of Mexico; Jalapa; Coban, Choctum, Medio Monte, Calderas, and Dueñas, Guatemala).—SALVIN and SCLATER, Ibis, 1860, 36 (Coban, Guatemala).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 306, footnote.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 127, part (Sierra Madre, near Ciudad Victoria, Tamaulipas; Jalapa, Vera Cruz; Huatusco, Puebla; Coban, etc., Guatemala; Omoa, Honduras ?[a]).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 32 (Jalapa; note).

[*Pachyrhamphus*] *major* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56.—SHARPE, Hand-list, iii, 1901, 165.

P[achyrhamphus] major RIDGWAY, Man. N. Am. Birds, 1887, 326.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 535.

[*Tityra*] *major* GRAY, Hand-list, i, 1869, 369, no. 5609.

Pachyrhamphus marginatus ? (not *Todus marginatus* Lichtenstein) SCLATER, Proc. Zool. Soc. Lond., 1856, 298 (Mexico; crit.).

(?) *Pachyrhamphus polychropterus* (not *Platyrhynchos polychropterus* Vieillot) MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Omoa, Honduras; crit.).

Pachyrhamphus polychropterus ? SCLATER and SALVIN, Ibis, 1859, 124.

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paler, especially the throat, which is more extensively white. They are, in fact, precisely intermediate, both in size and coloration, between true *P. m. major* and *P. m. itzensis*. Some specimens from Guatemala are, so far as coloration is concerned, practically indistinguishable from those Yucatan examples which have a considerable amount of black on the back, while others are quite as small as the Yucatan form. It is likely that these come from the Atlantic slope of Guatemala, where intergradation with the Yucatan race might be expected to take place.

[a] According to Salvin and Godman (Biol. Centr.-Am., Aves, ii, 127); certainly not *P. polychropterus* Lawrence, Ann. Lyc. N. Y., viii, 182, Greytown, Nicaragua, cited by them in the same connection, which is *P. polychropterus similis*!

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PACHYRHAMPHUS MAJOR UROPYGIALIS Nelson.

SINALOA BECARD.

Similar to *P. m. major*, but gray of lower rump and upper tail-coverts decidedly paler, the latter partly white, and under parts much paler (grayish white shading into very pale gray laterally).

Adult male.—Length (skin), 154; wing, 84; tail, 65; exposed culmen, 14; tarsus, 21; middle toe, 12.5.[a]

Western Mexico, in States of Sinaloa (Plomosas) and Guerrero (Amula).

Pachyrhamphus major (not *Bathmidurus major* Cabanis) Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1890, 127, part (Amula, Guerrero).—Nelson, Auk, xv, 1898, 156 (Plomosas, Sinaloa).

Pachyrhamphus major uropygialis Nelson, Auk, xvi, Jan., 1899, 28 (Plomosas, Sinaloa; coll. U. S. Nat. Mus).

[*Pachyrhamphus*] *uropygialis* Sharpe, Hand-list, iii, 1901, 165.

PACHYRHAMPHUS MAJOR ITZENSIS Nelson.

YUCATAN BECARD.

Similar to *P. m. major*, but decidedly smaller; back with much less of black, sometimes with none, the whole interscapular area being gray; under parts decidedly paler, white medially, shading into pale gray laterally; adult female slightly paler and duller in color than that of *P. m. major*.

Adult male.—Length (skins), 132–161 (143.1); wing, 73.5–79.5 (76.3); tail, 54.5–60.5 (57.2); exposed culmen, 14–14.5 (14.2); tarsus, 19.5–20 (19.8); middle toe, 11–12 (11.4).[b]

Adult female.—Length (skin), 148; wing, 77; tail, 60; exposed culmen, 13.5; tarsus, 20; middle toe, 12.[c]

Yucatan (Chichen-Itza; Calatmul; Peto; Buctzotz).

Pachyrhamphus major (not *Bathmidurus major* Cabanis) Boucard, Proc. Zool. Soc. Lond., 1878, 449 (Yucatan; note).—Sclater, Cat. Birds Brit. Mus., xiv, 1888, 346, part (n. Yucatan).—Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1890, 127, part (Peto and Buctzotz, Yucatan).

Pachyrhamphus major itzensis Nelson, Proc. Biol. Soc. Wash., xiv, Sept. 25, 1901, 173 (Chichen-Itza, Yucatan; coll. U. S. Nat. Mus.; = adult female).

PACHYRHAMPHUS ALBO-GRISEUS ALBO-GRISEUS Sclater.

ARCE'S BECARD.

Adult male.—Pileum and nape glossy blue-black or dark steel blue, the feathers with a central lanceolate area of opaque (dull) black; back, scapulars, rump, and upper tail-coverts plain gray (plumbeous-gray or slate-gray on back, slightly paler on rump and upper tail-coverts); tail black (the middle rectrices slate-gray becoming black terminally),

[a] One specimen (the type). [b] Six specimens. [c] One specimen (the type).

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the rectrices tipped with white, this occupying on outermost rectrix less than terminal third of inner and terminal half of outer web, decreasing gradually but rapidly in extent to the middle pair, which have merely a very small triangular spot at extreme tip; wings black, the middle coverts very broadly tipped with white, the last row of lesser coverts narrowly tipped with white, the greater coverts edged and broadly tipped with white, the tertials broadly margined with white, the remaining secondaries more narrowly edged (except basally) with white, and the primaries very narrowly and indistinctly edged with grayish white; latero-frontal (nasal) tufts, a conspicuous, sharply defined, supraloral stripe, and a small postocular spot, white; lores black, forming a distinct triangular spot; rest of sides of head, sides of neck, narrow collar across hindneck, and under parts light gray (about no. 7), passing into grayish white on chin and throat, and pure white on abdomen and under tail-coverts; axillars and under wing-coverts very pale gray; inner webs of remiges broadly edged with white; maxilla grayish black; mandible grayish (grayish blue in life?) with paler tomia; legs and feet dusky horn color in dried skin (bluish gray in life?); length (skin), 127; wing, 75; tail, 56.5; exposed culmen, 12.5; tarsus, 19; middle toe, 12.[a]

Adult female.—Possibly the same as *P. ornatus* Cherrie (see p. 842), but apparently not satisfactorily known. It is thus described by Sclater, and Salvin and Godman, respectively:

"Above dusky olive, head darker, lores white; wings blackish edged with yellowish rufus; tail black, broadly tipped with pale ochraceous; beneath pale grey-olive; middle of belly, crissum, and under wing-coverts yellowish." (Sclater, Cat. Birds Brit. Mus., xiv, 1888, 347.)

"Differs [from the female of *P. major*] in having an olive-colored back and a red instead of black crown." (Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1889, 128.) Notwithstanding the statement of the authors cited that the female has a "red" (i e., rufescent) crown, they figure that sex, on pl. 43, fig. 3, with the pileum *dark olive!*

Nicaragua (Corinto, on Pacific coast); Panama (Calovevora; Bugaba, Chitra); Colombia (Bogotá; Santa Marta?); Venezuela (Mérida; Caracas); Trinidad; Tobago.[b]

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[a] One specimen (from Chitra, Veragua, Panama), the only one I have been able to examine.

[b] This species seems to be rare in collections and not as well understood as most of its congeners. Much confusion evidently exists as to the adult female, and it is very probable the bird described by Mr. Cherrie as *P. ornatus* is in reality the female of the species. If so, the gap existing at present in its range between northwestern Nicaragua (Corinto) and western Panama would, in a measure, be filled by the several Costa Rican records of *P. "ornatus."*

A southern form, *Pachyrhamphus albro-griseus salvini* (Richmond) was formerly united with the present one but seems to be separable. Not having seen specimens,

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Pachyrhamphus albo-griseus SCLATER, Proc. Zool. Soc. Lond., 1857, 78 (Bogotá, Colombia; coll. P. L. Sclater); Ann. and Mag. N. H., 2d ser., xx, 1857, 398.—CORY, Auk, x, 1893, 220 (Tobago).

[*Pachyrhamphus*] *albo-griseus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

Pachyrhamphus albogriseus SCLATER, Cat. Am. Birds, 1862, 242, part (Bogotá); Cat. Birds Brit. Mus., xiv, 1888, 347, part (Nicaragua; Calovevora, Panama; Bogotá).—SALVIN, Proc. Zool. Soc. Lond., 1870, 199 (Bugaba and Calovevora, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 128, part, pl. 43, figs. 2, 3 (Corinto, Nicaragua; Bugaba and Calovevora, Veragua; Colombia).

[*Pachyrhamphus*] *albogriseus* SHARPE, Hand-list, iii, 1901, 166.

[*Tityra*] *albogriseus* GRAY, Hand-list, i, 1869, 369, no. 5611.

B[*athmidurus*] *albogriseus* CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 89 (Caracas, Venezuela).

[*Bathmidurus*] *albogriseus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 149 (Caracas).

PACHYRHAMPHUS CINEREUS (Boddaert).

CINEREOUS BECARD.

Adult male.—Pileum and nape, including postocular region, uniform, slightly glossy, black; hindneck, back, scapulars, rump, and upper tail-coverts plain gray (between plumbeous and slate-gray), the back sometimes faintly tinged with olive, or (more rarely) indistinctly mottled with dusky; lesser wing-coverts black centrally, margined with gray, the latter prevailing except on anterior inner portion, where sometimes uniform black; middle wing-coverts and inner greater coverts gray, margined with grayish white, the outer greater coverts darker with more distinctly white margins; remiges grayish dusky or slate color, narrowly edged (the tertials also margined terminally) with white or pale gray; primary coverts uniform black; lores and latero-frontal feathers white or grayish white, the former slightly

however, I am unable to give its characters by actual comparison. Its synonymy is as follows:

Pachyrhamphus albogriseus (not *P. albo-griseus* Sclater, 1857) Sclater, Cat. Am. Birds, 1862, 242, part (Pallatanga, Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 347, part (Quito, Pallatanga, and Jima, Ecuador); Taczanowski, Proc. Zool. Soc. Lond., 1879, 236 (Tambillo and Guajango, n. Peru); 1880, 203 (Callacate, n. Peru); Orn. du Pérou, ii, 1884, 361; Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1885, 93 (Mapoto, Ecuador); Salvin and Godman, Biol. Centr.-Am., Aves, ii, 1890, 128, part (Ecuador).—Hartert, Novit. Zool., v, 1898, 489 (Chimbo, n. w. Ecuador).—*Pachyrhamphus albogriseus* ? Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1883, 559 (Chimbo, w. Ecuador; crit.).—*Pachyrhamphus albo-griseus* Goodfellow, Ibis, 1901, 710 (Archidona, e. Ecuador).—*Pachyrhamphus similis* (not of Cherrie, 1891) Salvin, Novit. Zool., ii, no. 1, Feb., 1895, 13 (Chusgon, Huamachuco, etc., n. Peru; coll. Salvin and Godman); Salvadori and Festa, Boll. Mus. Zool. Torino, xv, no. 362, 1899, 16 (Foreste del Rio Peripa, w. Ecuador; crit.).—*Pachyrhamphus albogriseus similis* Hartert, Novit. Zool., ix, Dec., 1902, 609 (Chimbo, San Javier, and Archidona, n. w. Ecuador; crit.; synonymy.)—*Pachyrhamphus salvini* Richmond, Auk, xvi, Apr., 1899, 186 (new name for *P. similis* Salvin, preoccupied).

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intermixed with dusky immediately in front of eye; auricular, suborbital and malar regions and sides of neck pale gray, fading into white or grayish white on chin and throat; chest, sides, and flanks pale gray (the former sometimes white medially),[a] the remaining under parts white; axillars and under wing-coverts dull white or yellowish white, faintly barred or otherwise variegated with pale gray; inner webs of remiges broadly edged with dull yellowish white or very pale yellowish buff; maxilla grayish black (grayish blue or plumbeous in life), mandible slightly paler, with still paler tomia and tip; iris brown; legs and feet dusky in dried skins (pale grayish blue in life); length (skins), 116–135 (124); wing, 66–76 (69.2); tail, 47–54 (50.6); exposed culmen, 12–13.5 (12.6); tarsus, 17–18.5 (17.7); middle toe, 10–12 (11.2).[b]

Adult female.—Above plain bright tawny or rufous-tawny, the pileum usually slightly darker, sometimes duller; beneath pale buff deepening into buff or tawny-buff on sides of head and neck, chest, and sides, paler (sometimes nearly white) on upper throat, chin, and abdomen; axillars and under wing-coverts clear buff or tawny-buff; inner webs of remiges broadly edged with pinkish buff; bill, legs, and feet as in adult male; length (skins), 116–133 (126); wing, 66–70 (67.6); tail, 46–50 (48.6); exposed culmen, 12.5–13.5 (13); tarsus, 17–19 (17.9); middle toe, 11–11.5 (11.4).[c]

Panama (Panama City; Lion Hill and Paraiso stations; Chepo; Veragua) and southward through Colombia (Santa Marta; Rio Lima; Bogotá), Venezuela (Guanaguana; Caicará; Altagracia; Mérida; Caracas), Trinidad, Cayenne, Surinam (Paramaribo), Lower Amazon Valley (Mexiana Island; Pará; Santarém), and eastern Peru (Chyavetas; Chamicuros) to southern Brazil (Rio Juruá, São Pãulo).

[a] In some specimens the chest and sides of breast are indistinctly mottled or squamated with white and gray.

[b] Fifteen specimens.

[c] Six specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Panama	70.1	51.5	12.8	17.8	11.2
Three adult males from Colombia	73.5	52.7	12.3	17.5	11.2
Two adult males from Venezuela	69.7	50.5	12.2	17.5	10.5
Four adult males from Cayenne (3) and Surinam (1)	66.7	47.6	12.4	17.8	11.5
FEMALES.					
Four adult females from Panama	67.7	49	13	17.5	11.3
One adult female from Venezuela ?	66.5	49.5	13.5	18	11.5
One adult female from Cayenne	68	46	12.5	19	11.5

The series does not show constant differences in coloration according to locality, but is too small for satisfactory comparison.

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Pipra cinerea BODDAERT, Tabl. Pl. Enl., 1783, 43 (based on *Manakin cendre de Cayenne* Daubenton, Pl. Enl., pl. 687, fig. 1;=adult male).

Pachyrhamphus cinereus SCLATER, Proc. Zool. Soc. Lond., 1857, 75 (monogr.); Cat. Am. Birds, 1862, 241 (Cayenne; Trinidad; Venezuela; Santa Marta, Colombia).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 331 (Lion Hill, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 361 (Panama; crit.); 1866. 190 (Sarayacu, e. Peru); 1867, 579 (Mexiana I., and Pará, Lower Amazons); 1873, 284 (Sarayacu, Chyavetas, and Chamicuros, e. Peru).—PELZELN, Orn. Bras., ii. Abth., 1869, 121.—SALVIN, Cat. Strickland Coll., 1882, 324 (Cayenne).—TACZANOWSKI, Orn. du Pérou, ii, 1884, 360.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 125 (Lion Hill, Paraiso Station, and Chepo, Isthmus Panama, etc.).—RIKER and CHAPMAN, Auk, viii, 1891, 25 (Santarém, Lower Amazon).—PHELPS, Auk, xiv, 1897, 365 (Guanaguana, Venezuela).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 23 (Loma del Leon, Panama).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 56 (Caicara and Altagracia, Venezuela).—GOELDI, Ibis, 1903, 499 (Capim R., n. e. Brazil).—IHERING, Rev. Mus. Paulista, vi, 1904, 435 (Rio Juruá, São Paulo, s. Brazil).

P[achyhramphus] cinereus CABANIS and HEINE, Mus. Hein., ii, 1859, 86 (Caracas, Venezuela; Cayenne).

[*Pachyrhamphus*] *cinereus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56.—SHARPE, Hand-list, iii, 1901, 164.

[*Tityra*] *cinerea* GRAY, Hand-list, i, 1869, 368, no. 5602.

[*Pipra*] *atricapilla* (not *Lanius atricapillus* Gmelin, Syst. Nat., i, pt. i, 1788, 302) GMELIN, Syst. Nat., i, pt. ii, 1788, 1003 (based on *Manakin cendré de Cayenne* Daubenton, Pl. Enl., pl. 687, fig. 1; etc.).

B[athmidurus] atricapillus CABANIS, Wiegmann's Archiv. für Naturg., 1847, pt. i, 245.

P[achyrhamphus] atricapillus CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 698.

[*Pachyramphus*] *atricapilla* BONAPARTE, Consp. Av., i, 1850, 181.

Psaris atricapillus TEMMINCK, Tabl. Méth., 1838, 19.—KAUP, Proc. Zool. Soc. Lond., 1851, 45.

L[anius] mitratus LICHTENSTEIN, Verz. Doubl., 1823, 50, 51 (Cayenne; coll. Berlin Mus.)

Pachyrhamphus mitratus HARTLAUB, Verz. Mus. Brem., 1854, 51.—BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 454.

T[ityra] mitrata GRAY, Gen. Birds, i, 1846, 254.

Pachyrhynchus leucogaster SWAINSON., Anim. in Menag., Jan. 1, 1838, 289 (Brazil; coll. Paris Mus.;=young male).

T[ityra] leucogaster GRAY, Gen. Birds, i, 1846, 254.

Pachyrhynchus simplex LESSON, L'Echo du Monde Savant, 11e année, no. 10, Aug. 4, 1844, col. 231 (Brazil; coll. Abeillé).—HARTLAUB, Rev. Zool., 1846, 2.

Ps[aris] parinus KAUP, Proc. Zool. Soc. Lond., 1851, 48 (Pará, Brazil; coll. Derby Museum).

Pachyrhamphus griseus SCLATER, Proc. Zool. Soc. Lond., 1857, 18 (Bogota and Santa Marta, Colombia; Trinidad; Cayenne).

PACHYRHAMPHUS CINNAMOMEUS Lawrence.

CINNAMON BECARD.

Adult male.—Above plain rufous-tawny, the pileum slightly darker (sometimes inclining to chestnut); beneath plain buff or tawny-buff, paler on chin and upper throat, usually slightly deeper (more ochraceous) on chest and sides; a more or less distinct supraloral stripe

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(involving latero-frontal feathers) of buff; lores grayish or brownish, forming a more or less distinct triangular spot; axillars and under wing-coverts clear tawny-buff or ochraceous; inner webs of remiges broadly edged with pinkish buff or ochraceous-buff; maxilla dusky (grayish black in life) with paler tip and tomia; mandible grayish (grayish blue in life), with paler tip and tomia; iris brown; legs and feet grayish dusky (grayish horn color or more or less bluish gray in life); length (skins), 131–162 (141); wing, 75–83 (79.8); tail, 55.5–61 (57.7); exposed culmen, 12.5–16.5 (13.7); tarsus, 18.5–20.5 (19.3); middle toe, 10–12 (11.1).[a]

Adult female.—Precisely like the adult male in coloration, but ninth (next to outermost) primary not abbreviated nor pointed; length (skins), 130–150 (140); wing, 72.5–78 (75.3); tail, 52–57.5 (55.3); exposed culmen, 11–15 (13.8); tarsus, 18–21 (19.3); middle toe, 10.5–12 (11.4).[b]

Young (both sexes).—Similar in coloration to adults, the young male resembling the adult female in lacking the abbreviated and pointed ninth primary.

Southern Mexico, in State of Tabasco (Teapa) and southward through Guatemala (Coban; Choctum), British Honduras (Cayo), Honduras (Yaruca; Segovia River), Nicaragua (Greytown), Costa Rica (Angostura; Tucurriqui; Turrialba; Bonilla; Carrillo; Jiménez; Guacimo; Rio Sucio; Talamanca; Sipurio; Pigres), Panama (Panama City; Chepo; Loma del Leon), Colombia (Turbo; Bogotá; Remedios; Bucaramanga; Cauta) to western Ecuador (Balzar Mountains; Chimbo; Cachavi) and eastern Peru (Ucayali).

[a] Seventeen specimens.

[b] Fourteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Tabasco (Teapa)	81.3	58.8	13	19.2	10.6
One adult male from Guatemala (Choctum)	78.5	59	13	19	10.5
Nine adult males from southern Honduras (1), Nicaragua (1), and Costa Rica (7)	79.2	57.5	13.8	19.3	11.1
Three adult males from Panama	80	57.3	14.2	19.5	11.3
One adult male from Colombia (Bogotá)	82	56	14	19.5	11.5
FEMALES.					
One adult female from Tabasco (Teapa)	75.5	57	13.5	19	11
One adult female from Guatemala (Choctum)	75	57	.....	21	11.5
Eight adult females from southern Honduras (1) and Costa Rica (7)	75.9	55.1	13.7	19.2	11.3
Three adult females from Panama	74.5	54.7	14	19	11.3
One adult female from Colombia (Bogotá)	73	.....	14.5	19	12

I am unable to distinguish specimens from different localities.

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Pachyrhamphus ——— ? SALVIN and SCLATER, Ibis, 1860, 36 (Coban, Guatemala; crit.).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 296.

Pachyrhamphus cinnamomeus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii. 1862, 295 (Lion Hill, Panama R. R.; coll. U. S. Nat. Mus.); viii, 1867, 183 (Greytown, Nicaragua); ix, 1868, 116 (San José, Tucurriqui, Angostura, and Turrialba, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 518 (Remedios, Province Antioquia, Colombia; crit.).—BERLEPSCH, Journ. für Orn., 1884, 305 (Bucaramanga, Colombia; crit.).—RIDGWAY, Proc. U. S. Nat. Mus., x, 1887, 589 (Segovia R., Honduras).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 342 (Choctum, Guatemala; Angostura and Tucurriqui, Costa Rica; Panama and Chepo, Panama; Remedios, Bogotá, and Cauta, Colombia; Balzar Mts., Ecuador; upper Ucayali, e. Peru).—SALVIN and GODMAN, Biol. Centr-Am., Aves, ii. 1890, 126 (Coban, Guatemala; Cayo, British Honduras, etc.).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 508 (Rio Escondido, Nicaragua).—HARTERT, Novit. Zool., v, 1898, 489 (Chimbo and Cachaví, n. w. Ecuador).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 23 (Loma del Leon, Panama); Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Yaruca, Honduras).

P[*achyrhamphus*] *cinnamomeus* RIDGWAY, Man. N. Am. Birds, 1887, 326.

[*Pachyrhamphus*] *cinnamomeus* SHARPE, Hand-list, iii, 1901, 165.

[*Tityra*] *cinnamomeus* GRAY, Hand-list, i, 1869, 369, no. 5605.

PACHYRHAMPHUS ORNATUS Cherrie.[a]

CHERRIE'S BECARD.

Adult female.[b]—Pileum and nape uniform brown (cinnamon-russet to chestnut-brown or mummy brown), margined (except anteriorly) by a line of black, broadest above auricular region and across hindneck; back, scapulars, rump, and upper tail-coverts uniform light grayish olive-green; tail black, the rectrices becoming grayish brown or olive basally (middle pair mostly grayish brown or olive) broadly tipped with deep buff or ochraceous, this much broader on outermost pair, when occupying approximately terminal third of inner and terminal half of outer web; wings black, the lesser coverts margined with brown or olive, the middle coverts very broadly tipped with buff (more or less deep), the greater coverts edged and broadly tipped with buff, the tertials broadly margined with buff or pale buffy yellow, the other secondaries more narrowly, the primaries still more narrowly, edged with the same; latero-frontal (nasal) tufts and conspicuous supraloral stripe pale buff or buffy whitish; lores grayish dusky, forming a sharply defined triangular patch; sides of head and neck and narrow collar across hindneck pale yellowish olive; under parts pale yellow (deep primrose to pale dull primrose), the chest and sides shaded with pale olive; axillars and under wing-coverts very pale buffy yellow or primrose yellow, the inner webs of remiges broadly edged with the same; maxilla dusky horn color to grayish black, with paler tomia; mandible pale grayish (grayish blue in life?) with paler

[a] This is probably the female of *P. albo-griseus*. (See p. 837).

[b] The adult male unknown, unless *P. albo-griseus*.

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tomia and tip; iris brown;[a] legs and feet dusky grayish or horn color in dried skins (bluish gray in life?); length (skins), 136–154 (145); wing, 72–73.5 (72.7); tail, 52.5–55.5 (54.2); exposed culmen, 12–14 (13); tarsus, 18–19 (18.7); middle toe, 11–11.5 (11.3).[b]

Young female.—Similar to adults, but olive of upper parts tinged with cinnamon-brownish, especially on upper tail-coverts and posterior scapulars. (Two young females, one from San José, Costa Rica, the other from Valparaiso, Santa Marta, Colombia, differ from one another as follows: The Costa Rican example has the terminal portion of the rectrices pale buffy yellow or almost yellowish white, the tips of the two middle pairs, only, ochraceous-buff, the Colombian specimen having the terminal portion of all the rectrices clear tawny-ochraceous; the same difference applies to the wing-markings, which are pale yellow (tinged with ochraceous-buff on the larger coverts) in the Costa Rican specimen and wholly clear tawny-ochraceous in that from Colombia, in which the color of the pileum is a decidedly darker brown (mummy or chestnut-brown instead of between raw-umber and russet).

Costa Rica (Barranca; San José); Colombia (Valparaiso, Santa Marta).

Pachyrhamphus ornatus CHERRIE, Proc. U. S. Nat. Mus., xiv, no. 855, Sept. 4, 1891, 338 (Barranca, Costa Rica; coll. U. S. Nat. Mus.).—RIDGWAY, Proc. U. S. Nat. Mus., xvi, 1893, 611 (San José, Costa Rica; crit.).

[*Pachyrhamphus*] *ornatus* SHARPE, Hand-list, iii, 1901, 165.

PACHYRHAMPHUS VERSICOLOR (Hartlaub).

BARRED BECARD.

Adult male.—Pileum and hindneck uniform glossy blue-black; interscapulars black, the feathers gray beneath surface (this sometimes more or less exposed); scapulars with a terminal black bar, a much broader subterminal white bar, the basal (concealed) portion light gray with one or more bars of white, the anterior scapulars mostly black; rump and upper tail-coverts gray or olive-gray, sometimes with indistinct narrow bars of dusky (more rarely with a few whitish ones also); tail gray, the rectrices indistinctly edged with paler gray, olive-gray, or olive-greenish, narrowly margined terminally with white (except middle pair), their shafts blackish; wings black, the middle coverts with a large terminal roundish spot of white margined with black (the last row of lesser coverts sometimes with a similar but smaller white spot), the greater coverts and tertials broadly edged (except basally) with white, the secondaries narrowly edged with white; sides of head (including loral, suborbital, auricular, and malar regions), sides of neck, chin, and throat olive-yellow (usually paler on chin and

[a] J. Carmiol, manuscript on label. [b] Three specimens.

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throat), narrowly and more or less distinctly barred with dusky; rest of under parts dull white, more or less tinged with pale olive-yellow (especially anteriorly) more or less distinctly barred (narrowly) with dusky or grayish, except, sometimes, on abdomen; axillars and under wing-coverts yellowish white, usually narrowly and faintly barred with grayish; inner webs of remiges grayish dusky, broadly edged with yellowish white or pale primrose yellow; maxilla black, mandible more grayish (bluish gray in life?); iris dark yellow;[a] legs and feet grayish dusky (bluish gray in life?); length (skins), 105–131 (119); wing, 63–69 (66.6); tail, 47–50 (48.9); exposed culmen, 10–11.5 (11); tarsus, 15.5–17 (16.4); middle toe, 10–11.5 (10.8).[b]

Adult female.—Pileum and hindneck plain slate color or slate-gray, the forehead tinged with olive or olive-greenish; back, scapulars, rump, and upper tail-coverts uniform olive-green; tail grayish brown, the rectrices edged with olive-greenish; lesser wing-coverts olive or dusky; middle and greater coverts chestnut or cinnamon-rufous (the latter sometimes blackish next to shaft on outer web); alula, primary coverts, and remiges dusky or dull black, the remiges edged with rusty brown or chestnut, these edgings broader on secondaries and changing to yellowish, yellowish white, or cinnamon-buff on innermost secondaries (tertials); sides of head and neck light yellowish olive, obsoletely if at all barred; under parts as in adult male but more strongly and extensively yellow (sometimes wholly yellowish), more or less strongly tinged with olive anteriorly; bill, etc., as in adult male; length (skins), 109–124 (117); wing, 61.5–67 (64.3); tail, 45–49.5 (46.5); exposed culmen, 10.5–11.5 (11.1); tarsus, 16–17 (16.6); middle toe, 10.5–11.5 (10.8).[c]

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[a] "Amarillo oscuro;" S. Briceño, on label.

[b] Nine specimens.

[c] Five specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Costa Rica (Irazú)	65.5	47	11	16.5	11
Four adult males from Colombia (Bogotá)	67.5	49.4	10.8	16.2	10.5
Three adult males from Peru (Inca Mine)	65	49.7	11	16.5	11
One adult male from Venezuela (Escorial)	64	47	11.5	17	11
FEMALES.					
One adult female from Costa Rica (Irazú)	61.5	45	11	16	10.5
Three adult females from Colombia (Bogotá)	65.8	46.8	11	17	11
One adult female from Peru (Inca Mine)	62.5	47	11.5	16	10.5

This species almost certainly requires subdivision, but with so few specimens I shall not undertake to subdivide it. The male from Costa Rica differs from all the rest in brighter olive-yellow of sides of head and neck and throat and much more distinct barring of under parts, the bars on chest decidedly black and those elsewhere both darker

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Highlands of Costa Rica (La Candelaria; Volcan de Irazú; La Palma de San José); Colombia (Bogotá; Medellin, Antioquia), Ecuador (Rio Napo; Intac; Cayandeled; Machay; Gualea), Peru (Inca Mine; Pumamarca; Tambillo; Tamiapampa; Vitoc; Huacras) and Venezuela (Escoriál).

Vireo versicolor HARTLAUB, Rev. Zool., vi, Oct., 1843, 289 (Colombia; = female or young male).

T[ityra] versicolor GRAY, GEN. Birds, i, 1847, 254.

[*Tityra*] *versicolor* GRAY, Hand-list, i, 1869, 369, no. 5614.

P[achyrhamphus] versicolor HARTLAUB, Verz. Mus. Brem., 1844, 51.—CABANIS, Wiegmann's Archiv. für Naturg., 1847, pt. i, 243.

Pachyrhamphus versicolor SCLATER, Proc. Zool. Soc. Lond., 1855, 150 (Bogotá, Colombia); 1857, 76 (monogr.); 1858, 71 (Rio Napo, e. Ecuador); Cat. Am. Birds, 1862, 243 (Bogotá); Cat. Birds Brit. Mus., xiv, 1888, 339 (Bogotá and Medellin, Colombia; Intac, Ecuador).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 518 (Antioquia, Colombia).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 540 (Pumamarca, centr. Peru); 1879, 236 (Tambillo, n. Peru); 1882, 23 (Tamiapampa, n. e. Peru); Orn. du Pérou, ii, 1884, 366.—BOUCARD, Proc. Zool. Soc. Lond., 1878, 65 (La Candelaria, Costa Rica).—SALVIN, Cat. Strickland Coll., 1882, 324.—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1884, 298 (Cayandeled, w. Ecuador; crit.).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 93 (Machay, Ecuador).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 125.—CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 535 (La Palma de San José, Costa Rica).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1896, 369 (Vitoc and Huacras, Peru).—SALVADORI and FESTA, Boll. Mus. Zool. Torino, xv, no. 362, 1899, 16 (Gualea, w. Ecuador; crit.).—GOODFELLOW, Ibis, 1901, 710 (Intac, w. Ecuador).

[*Pachyrhamphus*] *versicolor* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56.—SHARPE, Hand-list, iii, 1901, 164.

[*Pachyrhamphus*] *versicolor* BONAPARTE, Consp. Av., i, 1850, 181.

P[saris] versicolor KAUP, Proc. Zool. Soc. Lond., 1851, 45.

C[allopsaris] versicolor CABANIS and HEINE, Mus. Hein., ii, 1859, 89, footnote (Colombia).

[*Callopsaris*] *versicolor* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 149 (Bogotá).

Pachyrhynchus squamatus LAFRESNAYE, Rev. Zool., vi, Oct., 1843, 291 (Colombia; = adult male).

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or broader. That from Venezuela, on the other hand, has the barring of the under parts much less distinct than in any of the specimens from Colombia and Peru (which are all much alike in this respect), being, in fact, almost obsolete, and the general color of the under parts is very much less yellowish, especially on the throat. The back of this Venezuelan specimen is also much less uniformly black, being much intermixed with gray, the upper back and lower hindneck being mostly gray. The female from Costa Rica is much like those from Colombia and Peru, but has the throat much more strongly olive-yellow. (See Berlepsch and Taczanowski, Proc. Zool. Soc. Lond., 1884, 298, and Salvadori and Festa, Boll. Soc. Zool. Torino, xv, no. 362, 1899, 16, for remarks concerning specimens from western Ecuador.)

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Genus PLATYPSARIS Sclater.

Platypsaris SCLATER, Proc. Zool. Soc. Lond., 1857, 72 (ex Bonaparte, 1854, nomen nudum). (Type, *Pachyrhamphus latirostris* Bonaparte.)

Hadrostomus[a] CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 84. (Type, *Tityra atricapilla* Vieillot.)

Rather small Cotingidæ (wing about 90–105 mm.) with second phalanx of outer toe entirely free from middle toe, planta tarsi quasi-taxaspidean, outermost (tenth) primary equal to or longer than fifth, tail not longer than wing to end of secondaries, and bill much shorter than head and nearly as deep as broad at base, the adult males without bright colors except, sometimes, a throat-patch of rose-red or pink.

Bill much shorter than head, stout, its depth at nostril nearly equal to its width at same point; culmen faintly ridged, nearly straight to near tip, where strongly and rather abruptly decurved, the tip of the maxilla obviously but rather minutely uncinate; gonys much longer than mandibular rami, not at all ridged, faintly convex, its basal angle rather prominent; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, very small, nearly circular, with narrow superior and posterior membrane. Rictal bristles distinct. Wing moderate, the longest primaries exceeding secondaries by length of exposed culmen, or more; sixth, seventh, and eighth primaries longest, the tenth about equal to fifth, the ninth, in adult males, only about half as long as eighth, its tip abruptly contracted and subacuminate. Tail shorter than wing to end of secondaries, distinctly rounded, the rectrices moderately broad, with rounded tip. Tarsus rather long (decidedly longer than middle toe with claw, about or nearly one-third as long as tail), its scutellation quasi-taxaspidean, the planta tarsi having along each side a single continuous row of rather large subquadrate or lozenge-shaped scutella, the two rows in contact along the posterior edge, but their junction interrupted by occasional small scutella interposed at each point of lateral division; middle toe, with claw, decidedly shorter than tarsus, its basal phalanx wholly, or for much the greater part, adherent to outer toe, nearly as much united to inner toe; hallux nearly as long as inner toe, stouter, its basal pad (tylarus) flattened and slightly expanded, its extended inner edge continuous with that of inner toe.

Plumage and coloration.—Contour feathers broad and blended; head normally feathered, with feathers of pileum (especially those of occipit and hinder crown elongated and distinctly outlined, forming, when erected, a bushy crest. Adult males black, or gray with black pileum, above, the scapulars with much concealed white; under parts

[a] "Von ἀδρός (dick, gedrungen) und στόμα (Mund, Schnabel)."

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dusky, gray, or whitish, with or without a patch of rose-red or pink on throat; adult females and young males rufous or brown above, the pileum sometimes black or dusky, or grayish with rusty pileum, wings, and tail, the lower parts more or less buffy or cinnamomeous.

Nidification.—Nest an enormous mass of vegetable materials with the entrance to the nest proper at the lower side. Eggs (of *P. aglaiæ sumichrasti*) "white, beautifully marked with pencillings of a pinkish red and occasional spots of the same color," these markings "much blended and concentrated at the larger end." [a]

Range.—Northern Mexico to Peru and southeastern Brazil; one species in Jamaica. (About eleven species and subspecies.)

KEY TO THE SPECIES AND SUBSPECIES OF PLATYPSARIS.

a. Back and rump slate-gray, slate color, or black. (Adult males.)
  b. Under parts slate-black, blackish slate, or sooty slate.
    c. Inner webs of remiges wholly dusky; no red on throat; under parts more sooty. (Jamaica.).....**Platypsaris niger**, adult male (p. 849)
    cc. Inner webs of remiges with a white basal area; a purplish red or pink patch on lower throat; under parts more slaty. (Colombia to Guiana and Amazon Valley.).....**Platypsaris minor**, adult male (extralimital) [b]
  bb. Under parts not darker than slate-gray (sometimes nearly white).
    c. Under parts pale buff or buffy white, without red on throat. (Southeastern Brazil.).....**Platypsaris atricapillus**, adult male (extralimital) [c]
    cc. Under parts gray or grayish white (with or without a rosy patch on lower throat).

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[a] Owen, Ibis, 1861, 64.

[b] *Querula minor* Lesson, Traité d'Orn., i, 1831, 363 (Cayenne).—*P[achyrhamphus] minor* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. ii, 241, part.—[*Pachyramphus*] *minor* Bonaparte, Consp. Av., i, 1850, 180, part.—*H[adrostomus] minor* Cabanis and Heine, Mus. Hein., ii, 1859, 85; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 337.—*Psaris roseicollis* D'Orbigny, Voy. Am. Mérid., iv, Ois., 1839, 302 (Guarayos and Yuracares, Bolivia); Jardine and Selby, Illustr. Orn., iv, pl. 28.—*Pachyrhamphus roseicollis* Sclater, Proc. Zool. Soc. Lond., 1587, 73.—*Pachyrhynchus pectoralis* Swainson, Anim. in Menag., Jan. 1, 1838, 288 (Cayenne; coll. Paris Mus.).—*Ps[aris] pectoralis* Kaup, Proc. Zool. Soc. Lond., 1851, 46.—*Pachyrhamphus pectoralis* Sclater, Proc. Zool. Soc. Lond., 1857, 73.

[c] *Tityra atricapilla* Vieillot, Nouv. Dict. d'Hist. Nat., iii, 1816, 347 (based on *Caracterizado canela y cabeza negra* Azara, Apunt. Parag., ii, 182).—*H[adrostomus] atricapillus* Cabanis and Heine, Mus. Hein., ii, 1859, 85.—*Hadrostomus atricapillus* Sclater, Cat. Am. Birds, 1862, 239; Cat. Birds Brit. Mus., xiv, 1888, 333.—*Tityra rufa* Vieillot, Nouv. Dict. d'Hist. Nat., iii, 1816, 347 (based on *Caractarizado canela corona de pizzara* Azara, Apunt. Parag.;=female) *L[anius] validus* Lichtenstein, Verz. Doubl., 1823,50 (São Paulo, s. Brazil; coll. Berlin Mus.)—*Psaris validus* Hartlaub, Index Azara's Apunt., 1847, 14.—*P[achyrhamphus] validus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 240.—[*Pachyramphus*] *validus* Bonaparte, Consp. Av., i, 1850, 180.—*Pachyrhynchus cinerascens* Spix, Av. Bras., ii, 1825, 34, pl. 46, fig. 1 (= young male).—*Psaris cristatus* Swainson, Zool. Journ., ii, Oct., 1825, 355 (s. Brazil); Zool. Illustr., ser. 2, i, 1829, pl. 41.—*Psaris strigatus* Swainson, Anim. in Menag., Jan. 1, 1838, 287.—*Pachyrhynchus megacephalus* Swainson, Anim. in Menag., Jan. 1, 1838, 287.—*Psaris affinis* Lesson, Rev. Zool., iii, Dec., 1840, 354 (Brazil).

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d. Abbreviated and concealed ninth (next to outermost) primary broader (5–6 mm.); black of pileum more intense, more glossy.[a] (*Platypsaris aglaiæ.*)

e. Back slate color or slate-gray, distinctly different from and abruptly contrasted with black of pileum and nape.

f. Lower throat with a large patch of rosy red or geranium pink.

g. Back slate color; under parts distinctly gray, the chin and upper throat usually pale gray.

h. Larger (wing averaging 94.8, tail, 70.6). (Northeastern Mexico to southern Texas.)...**Platypsaris aglaiæ aglaiæ**, adult male (p. 850)

hh. Smaller (wing averaging less than 88, tail less than 66 mm.).

i. Slightly larger with relatively much larger bill (wing averaging 87.2, tail 65.6, exposed culmen, 17.2, tarsus 21.1). (Yucatan.)

Platypsaris aglaiæ yucatanensis, adult male (p. 858)

ii. Slightly smaller, with relatively much smaller bill (wing averaging 85.7, tail 64.5, exposed culmen 14, tarsus 20.2). Tres Marias Islands, western Mexico.)

Platypsaris aglaiæ insularis, adult male (p. 857)

gg. Back slate-gray or ash-gray; under parts very pale gray, sometimes mostly white, the chin and upper throat pure white. Pacific slope of Mexico, north to southern Arizona.)

Platypsaris aglaiæ albiventris, adult male (p. 856)

ff. Throat wholly slate-gray, or else a small patch of pale orange-red or flesh color on lower portion. (Pacific slope of Central America.)

Platypsaris aglaiæ latirostris, adult male (p. 855)

ee. Back black (glossy black to slate-black), not distinctly if at all contrasted with color of pileum and nape.

f. Slightly larger (wing averaging 88.8, tail 66.1, exposed culmen 16.3, tarsus 21.4); lower throat with a purplish red patch. (Southeastern Mexico to Guatemala.)

Platypsaris aglaiæ sumichrasti, adult male (p. 852)

ff. Slightly smaller (wing averaging 87.5, tail 61.6, exposed culmen 15.4); whole throat slate color or slate-gray or (rarely) with only a trace of purplish red. (Southern Guatemala to Costa Rica.)

Platypsaris aglaiæ hypophæus (p. 854

dd. Abbreviated and concealed ninth primary narrower (4.5–5 mm.); black of pileum duller. (Otherwise apparently indistinguishable from adult male of *P. aglaæ latirostris!*) (Panama to Peru.)

Platypsaris homochrous, adult male (p. 859)

aa. Back and rump grayish brown to rufous-tawny or tawny-chestnut. (Adult female and young.)

b. Pileum and nape different in color from back and rump.

c. Pileum sepia or umber brown; larger (wing 97–106).

Platypsaris niger, adult female and young (pp. 849, 850)

cc. Pileum blackish or gray; smaller (wing 80–98).

Platypsaris aglaiæ (and subspecies), adult female and young.

Platypsaris atricapillus, adult female and young.[b]

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[a] Having only two adult males of *P. homochrous* I am not sure that these characters will hold good in a larger series. Considering the conspicuous difference in coloration between the adult females of this form and those of all the forms of *P. aglaiæ*, the two must be specifically distinct; yet I am unable to find more tangible characters for separating the adult male of *P. a. latirostris* from that of *P. homochrous!*

[b] I must confess my inability, at present, to construct a key which shall define satisfactorily the characters of the adult females and young of the several subspecies of

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bb. Pileum and nape concolor with back and rump.

c. Upper parts rufous-tawny. **Platypsaris homochrous**, adult female and young (p. 859)

cc. Upper parts grayish . . **Platypsaris minor**, adult female (and young?) (extralimital)[a]

PLATYPSARIS NIGER (Gmelin).

JAMAICAN BECARD.

Adult male.—Pileum and nape black, the feathers margined with slightly glossy blue-black; rest of upper parts plain slightly glossy slate-black, the innermost scapulars with much concealed white, chiefly on inner webs; sides of head and neck and entire under parts plain sooty slate color, the chin and upper throat slightly paler and more brownish; bill blackish brown or dusky horn color (in dried skins); legs and feet dusky horn color (more or less bluish in life?); length (skins), 167–178 (171); wing, 97–104 (101.3); tail, 70–77 (74); exposed culmen, 15.5–16.5 (16); tarsus, 22.5–24.5 (23.1); middle toe, 15–16 (15.4).[b]

Adult female.—Pileum and nape plain deep brown (prouts to between vandyke and sepia), slightly paler on forehead, the feathers of occiput and nape (sometimes of crown also) usually slightly tipped or terminally margined with black; back, scapulars, rump, and upper tail-coverts dark brownish gray or grayish brown (slightly paler posteriorly), the hindneck similar, but more brownish; wings and tail deep brown (sepia or warm sepia), the outer surface of greater wing-coverts and secondaries (sometimes edges of primaries also) more russet-brown; latero-frontal plumules pale russet or brownish buffy; lores pale grayish, tinged with pale brownish buff; rest of sides of head light russet (the suborbital region sometimes more buffy); chin pale dull buffy, deepening into pale brownish buff to cinnamon-buff or clay color on throat and upper chest, this fading into pale grayish buffy on breast, the remaining under parts pale buffy gray or grayish buffy, the under tail-coverts and thighs light brownish (the latter more buffy or cinnamomeous); axillars and under wing-coverts wood brown or cinnamon-brown; inner webs of

Platypsaris aglaiæ, and I am also unable to state in precise terms the differences that may exist between them and the adult female and young of *P. atricapillus*. The difficulty is in large measure owing to the strong probability that many specimens which according to their labels are alleged to be females are in reality young males, for there is no other way of accounting for the great variation in coloring, except by the hypothesis that the females of certain forms (notably *P. aglaiæ aglaiæ* and *P. a. sumichrasti*) have two very different phases of plumage—a grayish brown and a rufous or tawny one. Certain other forms seem not to vary in this way, the females of *P. a. hypophæus* and *P. a. latirostris* being apparently always of the rufous-tawny style, while those of *P. a. albiventris* seem always to be brownish gray above.

[a] I have not seen either the adult female or young of *P. minor*, but derive the above character from Doctor Sclater's description (Cat. Birds Brit. Mus., xiv, 1888, 337).

[b] Five specimens.

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remiges mostly cinnamon; bill, legs, and feet as in adult male; length (skins), 182–197 (188); wing, 97–106 (101.7); tail, 73–77.5 (74.2); exposed culmen, 16.5–18 (17.5); tarsus, 23–25 (24.2); middle toe, 15–16 (15.4).[a]

Young male.—Similar to the adult female, but pileum darker, the feathers more or less extensively tipped with glossy black.

Island of Jamaica (Spanishtown; Moneague; St. Georges; Hope), Greater Antilles.

[*Lanius*] *niger* GMELIN, Syst. Nat., i, pt. i, 1788, 301 (Jamaica; based on *Black Shrike* Latham, Synop. Birds, i, pt. i, 187, no. 38).—LATHAM, Index Orn., i, 1790, 73.

Pachyrhamphus niger SCLATER, Proc. Zool. Soc. Lond., 1857, 72.

T[*ityra*] *nigra* GRAY, Gen. Birds, iii, 1849, App., p. 11.

[*Tityra*] *niger* GRAY, Hand-list i, 1869, 368, no. 5595.

H[*adrostomus*] *niger* CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 85.

Hadrostomus niger SCLATER, Cat. Am. Birds, 1862, 239; Cat. Birds Brit. Mus., xiv, 1888, 334 (Spanishtown, Jamaica).—MARCH, Proc. Ac. Nat. Sci. Phila., 1863, 290.—SALVIN, Cat. Strickland Coll., 1882, 323.—CORY, Auk, iii, 1886, 337; Birds West Ind., 1889, 132.—SCOTT, Auk, x, 1893, 177 (Jamaica, above 3,000 ft.).

[*Hadrostomus*] *niger* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56.

Platypsaris nigra SCLATER, Proc. Zool. Soc. Lond., 1861, 77.—ALBRECHT, Journ. für Orn., 1862, 199.

Platypsaris niger CORY, Cat. West Ind. Birds, 1892, 13, 107, 130.

[*Platypsaris*] *niger* SHARPE, Hand-list, iii, 1901, 163.

Pachyrhynchus aterrimus LAFRESNAYE, Rev. Zool., 1846, 320.

Tityra leuconota GRAY and MITCHELL, Gen. Birds, i, 1846, 36, pl. 63.

Tityra leuconotus GOSSE, Birds, Jamaica, 1847, 127.

P[*achyrhamphus*] *nigrescens* CABANIS, Wiegmann's Archiv. für Naturg., 1847, pt. i, 241.

Pachyrhamphus nigrescens BONAPARTE, Consp. Av., i, 1850, 180 ("Colombia").

PLATYPSARIS AGLAIÆ AGLAIÆ (Lafresnaye).

ROSE-THROATED BECARD.

Adult male.—Pileum and nape uniform black, passing anteriorly into slate-black, sooty slate, or gray on forehead; back, scapulars, rump, upper tail-coverts, and wing-coverts uniform slate color or slate-gray in distinct and abrupt contrast with black of pileum, the larger wing-coverts indistinctly margined or edged with paler; rectrices dark slate color, edged with lighter slate or slate-gray; remiges dull slate color or dark brownish gray with paler slate-gray edgings, most distinct on secondaries; lores grayish, becoming dusky next to eye; auricular region slate color or sooty slate, passing into paler and grayer slate or slate-gray (sometimes pale brownish) on suborbital and malar regions; chin and extreme upper part of throat pale gray to grayish white; rest of throat geranium pink to lake red,

[a] Four specimens.

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this sometimes invading upper chest; rest of under parts plain gray, becoming paler posteriorly (especially on abdomen and under tail-coverts, which sometimes incline to dull white or brownish white), the under parts sometimes more or less tinged or suffused with buffy; axillars and under wing-coverts light brownish gray, sometimes suffused with brownish buffy; inner webs of remiges narrowly edged with white (more broadly so basally); bill dusky (more or less bluish in life) usually with paler tip and tomia; iris brown; legs and feet dusky or dark horn color (bluish gray in life?); length (skins), 164–183 (171); wing, 93–97.5 (94.8); tail, 67–76 (70.6); exposed culmen, 15–17.5 (16.3); tarsus, 21–22 (21.4); middle toe, 13–14.5 (13.7).[a]

Adult female.—Pileum and nape slate color to dark sooty slate, becoming paler on forehead, where often tinged with buff (the whole pileum sometimes tinged or suffused, occasionally striped, with buff); hindneck buff to tawny or tawny-ochraceous, forming a more or less distinct collar; back, scapulars, rump, and upper tail-coverts varying from light grayish buffy brown (between raw-umber and broccoli brown) or even more grayish brown (grayer than hair brown) to cinnamon-buff or clay color and tawny-cinnamon or russet; the tail and general color of wings usually more tawny; under parts, and sides of head and neck, varying from pale buff to deep buff, the color slightly deeper on auricular region, chest, and sides, and fading into buffy white on chin and upper throat; axillars and under wing-coverts buff to deep ochraceous-buff; inner webs of remiges broadly edged (except terminally) with pinkish buff to ochraceous-buff; bill, iris, legs and feet as in adult male; length (skins), 166–188 (181); wing, 91–98 (93.9); tail, 70–74 (72); exposed culmen, 15–18 (16.6); tarsus, 21.5–23 (22.2); middle toe, 14–16 (14.8).[a]

Northeastern Mexico, from States of Nuevo Leon (San Diego; Boquillo; Rio de Ramos; Montemorelos; Monterey; Cerro de la Silla[b]) and northern and western Tamaulipas (Victoria; Rio Corono; Santa Fé de Presas, Rio Palon; Forlón; Hidalgo; Soto la Maria; Victoria; Sierra Madre above Victoria) and San Luis Potosi (Valles) to highlands of Vera Cruz (Jalapa; Jico; Rivera; Mirador; Carrizal; Papantla[c]) and Puebla (Rancho del Ahuehuete); Mexico (near City of Mexico)?.

Pachyrhynchus aglaiæ LAFRESNAYE, Rev. Zool., ii, Apr., 1839, 98 (Mexico; type now in coll. Bost. Soc. N. H.).

T[ityra] aglaiæ GRAY, Gen. Birds, i, 1846, 254.

Psaris aglaiæ KAUP, Proc. Zool. Soc. Lond., 1851, 46.

[*Tityra*] *aglaiæ* GRAY, Hand-list, i, 1869, 368, no. 5594.

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[a] Ten specimens.

[b] A single specimen from this locality, taken in March, is *P. a. albiventris*, the rest being the present form.

[c] Papantla specimens are intermediate between this form and *P. a. sumichrasti*.

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Pachyrhamphus aglaiæ SCLATER, Proc. Zool. Soc. Lond., 1856, 297 (Cordova, Vera Cruz; diagn.; crit.); 1857, 74 (monogr.); 1859, 366 (Jalapa, Vera Cruz; crit.).—BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 164 (San Diego, Nuevo Leon); ed. 1860 (Birds N. Am.), 164, pl. 47, fig. 1; Cat. N. Am. Birds, 1859, no. 120; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 7, pl. 9, fig. 1 (San Diego, Nuevo Leon).

Platypsaris aglaiæ (not of Sclater, 1859) SUMICHRAST, Mem. Bost. Soc. N. H., ii, 1869, 558 (Vera Cruz).—CHAPMAN, Bull. Am. Mus. N. H., x, 1898, 31 (Jalapa; habits; descr. nest).—NELSON, N. Am. Fauna, no. 14, 1899, 47 (range).

P[latypsaris] aglaiæ RIDGWAY, Man. N. Am. Birds, 1887, 324, part.—COUES, Key N. Am. Birds, 5th ed., i, 1903, 535, part.

[*Platypsaris*] *aglaiæ* SHARPE, Hand-list, iii, 1901, 163, part.

H[adrostomus] aglaiae CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 85 (Jalapa, Vera Cruz).

Hadrostomus aglaiæ SCLATER, Cat. Am. Birds, 1862, 240, part (Jalapa); Proc. Zool. Soc. Lond., 1864, 176 (City of Mexico); Cat. Birds Brit. Mus., xiv, 1888, 335, part (Jalapa).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 333.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 156, part (Rancho del Ahuehuete, Puebla; Jalapa, Vera Cruz).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (e. Mexican localities).

[*Hadrostomus*] *aglaiæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

Platypsaris affinis (not *Psaris affinis* Lesson, 1840) ELLIOT, Ibis, i, Oct., 1859. 394, pl. 13 ("Mexico"; type now in coll. Am. Mus. N. H.).—SCLATER, Proc. Zool. Soc. Lond., 1859, 366 (Jalapa; crit.).—SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 558 (alpine reg., Vera Cruz).

Hadrostomus affinis BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, ii, 1874, 306, footnote.

P[achyrhamphus] minor (not *Querula minor* Lesson) CABANIS, in Wiegmann's Archiv. für Naturg., 1847, i, 241, part (Jalapa, Vera Cruz).

(?) [*Pachyramphus*] *minor* BONAPARTE, Consp. Av., i, 1850, 180, part (Mexico).

PLATYPSARIS AGLAIÆ SUMICHRASTI Nelson.

SUMICHRAST'S BECARD.

Similar to *P. a. aglaiæ*, but much darker, the adult male with the back, etc., blackish slate to black, but little different from and not contrasted with the black of pileum; gray of under parts much darker, and, usually, color of throat more purplish red (burnt carmine or pomegranate-purple) and frequently more restricted (especially in examples from Guatemala and British Honduras, in some of which the red is more or less obsolete); adult female much darker and more rufescent than that of *P. a. aglaiæ*, the pileum often sooty black or slate-black, the back, etc., varying from deep russet-brown (nearly prouts brown) to burnt-umber and rufous-chestnut, the under parts deep buff to deep tawny-buff.

Adult male.—Length (skins), 153–173 (166); wing, 83.5–94.5 (89.2); tail, 62–74 (67.4); exposed culmen, 16–17 (16.3); tarsus, 19.5–23 (21.5); middle toe, 12.5–14.5 (13.2).[a]

[a] Fourteen specimens.

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Adult female.—Length (skins), 146–174 (168); wing, 83–94 (88.1); tail, 62–73.5 (66.4); exposed culmen, 15–19 (17.4); tarsus, 19.5–23 (21.5); middle toe, 12–14.5 (13.3).[a]

Southern Tamaulipas, on coast plain (Tampico; Alta Mira) and lowlands of Vera Cruz (Tlalcotalpan; Rio San Juan; Buena Vista; Pasa Nueva; Otatitlan; San Andreas Tuxtla; Cordova; Rivera) through Oaxaca (Cacoprieto; Tuxtepec), Tabasco (Frontera) and Chiapas (Tonalá) to Guatemala (Coban; Choctum; Cajabon; Choacus; Uspantán, Quitché; Escuintla) and British Honduras (in the last two countries grading into *P. a. hypophæus*, and on Pacific slope of Guatemala into *P. a. latirostris*).[b]

(?) [*Pachyramphus*] *minor* (not *Querula minor* Lesson) BONAPARTE, Consp. Av., i, 1850, 180, part (Mexico).

Pachyrhamphus aglaiæ (not *Pachyrhynchus aglaiæ* Lafresnaye) SCLATER and SALVIN, Ibis, 1859, 124 (Cajabon, Guatemala).—OWEN, Ibis, 1861, 64, pl. 2, fig. 4 (fig. of egg; Choacus, Guatemala; descr. nest and eggs).

Platypsaris aglaiæ SCLATER, Proc. Zool. Soc. Lond., 1859, 385 (Playa Vicente, s. Vera Cruz; crit.).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1896, 629 (Alta Mira, s. Tamaulipas).

P[*latypsaris*] *aglaiæ* RIDGWAY, Man. N. Am. Birds, 1887, 324, part.

[*Platypsaris*] *aglaiæ* SHARPE, Hand-list, iii, 1901, 163, part.

Hadrostomus aglaiæ (not of Cabanis and Heine) ELLIOT, Ibis, Oct., 1859, 394 (crit.).—SALVIN, Cat. Strickland Coll., 1882, 323 (Guatemala).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 156, part (Yanhuitlan?, Oaxaca).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 335, part (Tonalá, Chiapas; Cacoprieto, Oaxaca; Choctum, Retalhuleu, Chisec, and Volcan de Fuego, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (localities in Oaxaca, Tabasco, Chiapas, and Guatemala).

[a] Fifteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Vera Cruz (7) and Tabasco (2)	89.2	67.4	16.3	21.5	13.2
Five adult males from Guatemala	88.8	66.1	16.3	21.4	13.2
FEMALES.					
Ten adult females from Vera Cruz (6), Oaxaca (1), and Tabasco (3)	89.5	67.8	17.8	21.7	13.8
Five adult females from Guatemala	88.1	66.4	17.4	21.5	13.3

Many Guatemala specimens have the rose color of the throat much reduced in extent, while in some it is obsolete, as is also the case with one from British Honduras; and as a rule both sexes (females especially) are somewhat more intensely colored than those from Mexico. The Guatemalan series consists, in fact, distinctly for the most part, of intergrades between *P. a. sumichrasti* and *P. a. hypophæus*.

[b] I am unable to allocate certain localities in Guatemala, Oaxaca, and Vera Cruz mentioned in the *Biologia Centrali-Americana*, (*Aves*, ii, 122) for the reason that some of them I can not find on maps available to me, while in other cases it would be necessary to see specimens before their correct identification could be made.

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[*Hadrostomus*] *aglaiæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

Hadrostomus latirostris (not *Pachyrhamphus latirostris* Bonaparte) SCLATER, Cat. Am. Birds, 1862, 240 (Choctum, Vera Paz, Guatemala).

Platypsaris algaiæ sumichrasti NELSON, Auk, xiv, Jan., 1897, 52 (Otatitlan, Vera Cruz; coll. U. S. Nat. Mus.); North Am. Fauna, no. 14, 1899, 47 (range).

[*Platypsaris*] *sumichrasti* SHARPE, Hand-list, iii, 1901, 163.

PLATYPSARIS AGLAIÆ HYPOPHÆUS Ridgway.

GRAY-THROATED BECARD.

Similar to *P. a. sumichrasti*, but adult male with the whole throat slate color or slate-gray, like rest of under parts, or (very rarely) very slightly tinged with purplish red; adult female still more deeply colored than that of *P. a. sumichrasti*, the pileum (usually) slate-black or sooty black for greater part, back, etc., burnt-umber brown to rich rufous-chestnut, the under parts usually deep ochraceous.

Adult male.—Length (skins), 141–163 (154); wing, 83–90 (87.5); tail, 58.5–64 (61.6); exposed culmen, 14.5–16.5 (15.3); tarsus, 20–21 (20.3); middle toe, 12–13.5 (12.5).[a]

Adult female.—Length (skins), 154–165 (158); wing, 83.5–89 (84.9); tail, 60.5–64 (61.6); exposed culmen, 15–17 (15.7); tarsus, 20–21 (20.1); middle toe, 13.[a]

Atlantic slope of Central America, from Honduras (San Pedro Sula; Santa Ana; Ceiba) to Costa Rica (Jiménez); southeastern Guatemala?[b]

(?) *Hadrostomus aglaiæ* (not *Pachyrhynchus aglaiæ* Lafresnaye) CABANIS, Journ. für Orn., 1861, 252 (Costa Rica).[c]—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (Costa Rica).[c]—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).[c]

[a] Seven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Honduras	87.9	62.3	15.5	20.2	12.4
Two adult males from Costa Rica (Jiménez)	86.5	60	15	20.5	12.8
FEMALES.					
Four adult females from Honduras	84.2	61.1	15.7	20	13
Three adult females from Costa Rica (Jiménez)	85.7	62.2	15.7	20.3	13

Additional specimens from both Honduras and Costa Rica received since *P. a. hypophæus* and *P. a. obscurus* were described show that the characters upon which the latter was based are inconstant, specimens from the two countries being practically alike.

[b] Some females from Guatemala (precise locality unknown) are indistinguishable from Honduras specimens and probably belong to the present form.

[c] These references, which are all apparently based on a specimen collected by Ellendorf, may possibly pertain to *P. a. latirostris*. The exact locality of the Ellendorf's specimen is not known, however, and therefore only an examination of the specimen itself will make its correct allocation possible.

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Hadrostomus aglaiæ SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 837 (San Pedro, Honduras).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 335, part (in synonymy).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (San Pedro, Honduras; Costa Rica ?).

[*Hadrostomus*] *aglaiæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56,part.

Platypsaris aglaiæ CHERRIE, Proc. U. S. Nat. Mus., xiv, 1891, 535 (Jiménez, c. Costa Rica).

[*Platypsaris*] *aglaiæ* SHARPE, Hand-list, iii, 1901, 163, part.

Platypsaris aglaiæ hypophæus RIDGWAY, Proc. U. S. Nat. Mus., xiv, no. 868, Oct. 26, 1891, 467 (San Pedro Sula, Honduras; coll. U. S. Nat. Mus.).

[*Platypsaris*] *hypophæus* SHARPE, Hand-list, iii, 1901, 163.

Platypsaris aglaiæ obscurus RIDGWAY, Proc. U. S. Nat. Mus., xiv, no. 869, Oct. 31, 1891, 474 (Jiménez, Costa Rica; coll. U. S. Nat. Mus.); xvi, 1893, 612 (crit.).—BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Ceiba, Honduras; crit.).

[*Platypsaris*] *obscurus* SHARPE, Hand-list, iii, 1901, 163.

PLATYPSARIS AGLAIÆ LATIROSTRIS (Bonaparte).

GRAY BECARD.

Adult male similar to *P. a. aglaiæ* in color of upper parts (the back, etc., being dark slate-gray or slate color, abruptly contrasted with black of pileum), but under parts either wholly light slate-gray, without trace of red on throat, or else with the red throat-patch more restricted and much paler and less rosy in hue (flesh color or flesh-pink, instead of geranium pink to lake red); adult female similar to that of *P. a. hypophæus*, but decidedly paler, the pileum dusky slate, remaining upper parts very uniform clear rufous-tawny or deep tawny-ochraceous, the under parts pale buff.

Adult male.—Length (skins), 149–159 (154); wing, 90–93 (91.5); tail, 63.5–67.5 (65.2); exposed culmen, 15.5–16 (15.9); tarsus, 20–21 (20.4); middle toe, 12.5–13 (12.8).[a]

Adult female.—Length (skins), 152–155 (154); wing, 87–92.5 (88.7); tail, 60.5–65.5 (63.3); exposed culmen, 16–17 (16.5); tarsus, 20.5–21 (20.8); middle toe, 13–13.5 (13.2).[b]

[a] Four specimens.

[b] Three specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from western Nicaragua (Ometepe)	91.5	65.5	16	20.3	12.8
Two adult males from Salvador (San Salvador)	91.5	64.5	15.8	20.5	12.8
FEMALES.					
One adult female from western Costa Rica (La Palma de Nicoya)	87	60.5	16.5	21	13
One adult female from western Nicaragua (Ometepe)	92.5	64	17	20.5	13.5
One adult female from western (?) Guatemala (Villanueva)	88.5	65.5	16	21	13

Of the two adult males from Ometepe, Nicaragua, one has the whole throat uniform light slate-gray, without a trace of red, while the other has the lower throat whitish,

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Pacific slope of Central America, in Costa Rica (La Palma de Nicoya), Nicaragua (Ometepe), and Salvador (San Salvador); probably also in southwestern Guatemala.

Pachyrhamphus latirostris BONAPARTE, Compt. Rend., xxxviii, 1854, 658 (Nicaragua; coll. Delattre); Notes Orn. Coll. Delattre, 1854, 87.—SCLATER, Proc. Zool. Soc. Lond., 1857, 74 (monogr.).

[*Tityra*] *latirostris* GRAY, Hand-list, i, 1869, 368, no. 5600.

Hydrostomus [typographical error] *latirostris* RIDGWAY, Proc. U. S. Nat. Mus., vi, 1884, 293 (Ometepe, Nicaragua; crit.).

P[*latypsaris*] *latirostris* RIDGWAY, Man. N. Am. Birds, 1887, 325 (Nicaragua; w. Costa Rica).

Platypsaris latirostris RIDGWAY, Proc. U. S. Nat. Mus., xiv, 1891, 468, 469, 474, in text (Ometepe, Nicaragua; La Palma de Nicoya, w. Costa Rica).

P[*latypsaris*] *a*[*glaiæ*] *latirostris* RIDGWAY, Proc. U. S. Nat. Mus., xiv, 1891, 468, in text (Ometepe, Nicaragua); xvi, 1893, 612, in text (La Palma de Nicoya, Costa Rica).

P[*latypsaris*] *aglaiæ latirostris* RIDGWAY, Proc. U. S. Nat. Mus., xiv, 1891, 469 (Nicaragua).

Hadrostomus homochrous? (not of Sclater) RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 397 (La Palma de Nicoya, Costa Rica).

P[*latypsaris*] *aglaiæ* (not *Pœchyrhynchus aglaiæ* Lafresnaye) RIDGWAY, Man. N. Am. Birds, 1887, 324, part (Salvador).

[*Platypsaris*] *aglaiæ* SHARPE, Hand-list, iii, 1901, 163, part.

Hadrostomus aglaiæ SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 335, part (Nicaragua; specimens ♂, ♂).—SALVIN and GODMAN, Biol. Centr. Am., Aves, ii, 1890, 121, part (Ometepe I., Nicaragua).

[*Hadrostomus*] *aglaiæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

PLATYPSARIS AGLAIÆ ALBIVENTRIS (Lawrence).

XANTUS'S BECARD.

Similar to *P. a. aglaiæ*, but much paler, the back, etc., slate-gray instead of slate color, the general color of under parts varying from pale gray to white, faintly tinged with pale gray on sides of breast, the throat-patch averaging paler red (geranium pink to light rose red); adult female with pileum light slate color or slate-gray (paler gray anteriorly), hindneck pale buff to buff-tawny (forming a more or less distinct collar), back, etc., light buffy gray to light grayish brown (light bister or nearly broccoli), under parts buffy white to buff.

Adult male.—Length (skins), 153–169 (159); wing, 86.5–95.5 (90); tail, 63–68.5 (65.1); exposed culmen, 14.5–16.5 (15.5); tarsus, 19.5–21.5 (20.4); middle toe, 12–13 (12.7).[a]

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very faintly tinged with pink. Both the specimens from Salvador have a rather large patch of pale vermilion or flesh pink on the lower throat, this patch much smaller than in *P. a. aglaiæ* and other forms (except Guatemalan examples of *P. a. sumichrasti*, which are otherwise very different) and of a very different hue from the usual color in any of the other forms. The female from Villanueva, Guatemala (which I have not been able to locate on the map), is quite indistinguishable from the females of this form from western Nicaragua and Costa Rica and very different from Guatemalan specimens of *P. a. sumichrasti* and *P. a. hypophæus*.

[a] Fourteen specimens.

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Adult female.—Length (skins), 148–173 (164); wing, 86–92 (89.5); tail, 64.5–69 (66); exposed culmen, 15–17 (15.8); tarsus, 20.5–22 (21.2); middle toe, 12.5–14 (13.2).[a]

Pacific slope of Mexico, in States of Chihuahua (Hacienda San Rafael), Sonora (Alamos; Ysleta), Sinaloa (Mazatlan; Presidio, near Mazatlan; Escuinapa), Jalisco (Guadalajara; Zapotlan; Beltrán; Santa Ana; Ocotlán; Barranca Ibarra; Ixtapa; Bolaños), Michoacan (Los Reyes; near Ahuacana), Morelos (Puente de Ixtla), Colima (Plains of Colima; Colima), Guerrero (Amula; Acahuitzotla; Papaya; Acapulco), and Oaxaca (Dondominguillo), and Territory of Tepic (Santiago; San Blas); northward into southern Arizona (Ramsey Cañon, Huachuca Mountains., 7,500 ft.); eastward (perhaps accidentally) to Nuevo Leon (Cerro de la Silla, one specimen, March).

Hadrostomus albiventris LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., viii, 1867, 475 (Plains of Colima, s. w. Mexico; coll. U. S. Nat. Mus.); Mem. Bost. Soc. N. H., ii, 1874, 289 (Mazatlan, Sinaloa; Plains of Colima).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 335 (Presidio, near Mazatlan).

[*Tityra*]? *albiventris* GRAY, Hand-list, i, 1869, 368, no. 5599.

P[*latypsaris*] *albiventris* RIDGWAY, Man. N. Am. Birds, 1887, 325, part (w. Mexico; Arizona).

Platypsaris albiventris PRICE, Auk, v, 1888, 425 (Huachuca Mts., s. Arizona, 7,500 ft.); Proc. Calif. Ac. Sci., ser. 2, 1889, 89 (Huachuca Mts.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, vii, 1890, 62; Check List, 2d ed., 1895, no. 441.1.—JOUY, Proc. U. S. Nat. Mus., xvi, 1893, 783 (Barranca Ibarra, Jalisco).—BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 230.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 245.—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 356 (Escuinapa, Sinaloa).

[*Platypsaris*] *albiventris* SHARPE, Hand-list, iii, 1901, 163.

P[*latypsaris*] *aglaiæ albiventris* RIDGWAY, Proc. U. S. Nat. Mus., xiv, no. 868, Oct. 26, 1891, 469 (w. Mexico).

Platypsaris aglaiæ albiventris NELSON, North Am. Fauna, no. 14, 1899, 47 (range).

[*Hadrostomus*] *aglaiæ* (not *Pachyrhynchus aglaiæ* Lafresnaye) SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

Hadrostomus aglaiæ LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Dondominguillo, Oaxaca).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (Ysleta, Sonora; Presidio, near Mazatlan; Mazatlan; Zapotlan, Beltran, and Santa Ana, Jalisco; Plains of Colima).

PLATYPSARIS AGLAIÆ INSULARIS (Ridgway).

TRES MÁRIAS BECARD.

Adult male similar in coloration to that of *P. a. yucatanensis* but bill much smaller, the wing and tarsus averaging decidedly shorter; adult female similar in coloration to that of *P. a. albiventris* but decidedly smaller, especially the bill.

Adult male.—Length (skins), 153–171 (165); wing, 85.5–86 (85.7); tail, 63–65.5 (64.5); exposed culmen, 13.5–14.5 (14); tarsus, 19–21.5 (20.2); middle toe, 12–12.5 (12.3).[b]

[a] Ten specimens. [b] Three specimens.

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Adult female.—Length (skins), 164–171 (167); wing, 86–88.5 (87); tail, 64–65 (64.5); exposed culmen, 13.5–15 (14.2); tarsus, 20.5–22 22 (21.2); middle toe, 12–13 (12.5).[a]

Tres Marias Islands, western Mexico.

Hadrostomus agliæ var. *affinis* (not *Platypsaris affinis* Elliot) GRAYSON, Proc. Bost. Soc. N. H., xiv, 1871, 279 (Tres Marias Islands, w. Mexico).—LAWRENCE, Proc. Bost. Soc. N. H., xiv, 1871, 280 (Tres Marias; crit.); Mem. Bost. Soc. N. H., ii, 1874, 289 (Tres Marias).

Hadrostomus aglaiæ (not *Pachyrhynchus aglaiæ* Lafresnaye) SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (Tres Marias).

P[latypsaris] insularis RIDGWAY, Man. N. Am. Birds, 1887, 325 (Tres Marias Islands, w. Mexico; coll. U. S. Nat. Mus.).

Platypsaris insularis RIDGWAY, Man. N. Am. Birds, 1887, 592; 2d ed., 1896, 613.

[*Platypsaris*] *insularis* SHARPE, Hand-list, iii, 1901, 164.

P[latypsaris] aglaiæ insularis RIDGWAY, Proc. U. S. Nat. Mus., xiv, Oct. 26, 1891, 469.

Platypsaris aglaiæ insularis NELSON, North Am. Fauna., no. 14, 1899, 47 (Maria Madre I., Tres Marias; crit.).

PLATYPSARIS AGLAIÆ YUCATANENSIS Ridgway.

YUCATAN BECARD.

Similar to *P. a. aglaiæ* in coloration of upper parts, but under parts averaging decidedly paler (about as in darker examples of *P. a. albiventris*); adult female similar to that of *P. a. albiventris* but darker above, decidedly less cinnamomeous and slightly paler than that of *P. a. aglaiæ;* wing averaging shorter, bill decidedly larger than in either *P. a. aglaiæ* or *P. a. albiventris.*

Adult male.—Length (skins), 160–168 (164); wing, 83.5–91 (87.2); tail, 63–68.5 (65.6); exposed culmen, 16.5–18.5 (17.2); tarsus, 20.5–22.5 (21.1); middle toe, 12–13.5 (12.8).[b]

Adult female.—Length (skins), 171–176 (173); wing, 80.5–93 (86.8); tail, 63–72.5 (67.3); exposed culmen, 16.5–18 (17.4); tarsus, 20.5–23 (22); middle toe, 13–14 (13.5).[c]

Yucatan (Mérida; Tizimin, Izamal, Buctzotz; Peto; Temax; La Vega; Rio Lagarto; Chan Suquila).

Hadrostomus aglaiæ (not *Pachyrhynchus aglaiæ* Lafresnaye) LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 204 (Mérida, Yucatan).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 449 (Mérida, Izamal, and Tizimin, Yucatan; habits).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 335, part (Tizimin, Mérida, etc., Yucatan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (Mérida, Buctzotz, Peto, and Tizimin, Yucatan).

[*Hadrostomus*] *aglaiæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

Tityra aglaiæ NEHRKORN, Journ. fur Orn., 1881, 67 (Yucatan; descr. eggs).

[*Platypsaris*] *aglaiæ* SHARPE, Hand-list, iii, 1901, 163, part.

[a] Three specimens. [b] Nine specimens. [c] Five specimens.

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P[latypsaris] albiventris (not *Hadrostomus albiventris* Lawrence) RIDGWAY, Man. N. Am. Birds, 1887, 325, part (Yucatan).

Platypsaris aglaiæ yucatanensis RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 120 (Yucatan; coll. U. S. Nat. Mus.).

(*Specimens from Cozumel and Holbox Islands.*)[a]

Hadrostomus sp.? SALVIN, Ibis, Apr., 1885, 191 (Cozumel I., Yucatan; crit.).

Hadrostomus, species undetermined, RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 572 (Cozumel).

Hadrostomus aglaiæ (not *Pachyrhynchus aglaiæ* Lafresnaye) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 335, part (Holbox I. and Cozumel I., Yucatan).—SALVIN, Ibis, 1889, 364 (Holbox I. and Cozumel I., Yucatan; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 121, part (Holbox I.; Cozumel I.).

PLATYPSARIS HOMOCHROUS (Sclater).

ONE-COLORED BECARD.

Adult male similar in coloration to that of *P. aglaiæ latirostris*, having no trace of red on throat, but ninth (abbreviated and concealed) primary narrower and wing and tail shorter; adult female differing from that of any form of *P. aglaiæ* or related species in having the whole pileum rufous-brown or rufous-chestnut, like rest of upper surface.

Adult male.—Pileum and nape plain black, becoming dark sooty grayish on forehead; hindneck, back, scapulars, rump, and upper tail-coverts slate color (the feathers somewhat darker centrally), clearer or purer and somewhat lighter posteriorly; wings and tail dull blackish slate, the middle and posterior lesser coverts, greater coverts, and inner secondaries clearer slate color margined with lighter slate color or slate-gray, the remiges narrowly edged with paler slate-gray; under parts wholly pale slate-gray, very slightly paler on chin and upper throat, decidedly (but not conspicuously) paler posteriorly; axillars and under wing-coverts slate-gray; inner webs of remiges edged with white basally, the white extending entirely across on extreme basal portion; maxilla black or grayish black, mandible paler (bluish gray in life?); legs and feet dusky horn color (bluish gray in life?); length (skins), 152–165 (158); wing, 87.5–88 (87.7); tail, 62–63 (62.5); exposed culmen, 16–17 (16.5); tarsus, 20–20.5 (20.2); middle toe, 13–13.5 (13.2).[b]

Adult female.—Above, including whole pileum, plain deep cinnamon to tawny-rufous, the primaries dusky edged with the general

[a] I have not seen specimens from the islands mentioned, and therefore refer them provisionally to this form.

[b] Two specimens.

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color; under parts pale buff to light ochraceous, the color deeper on chest and sides, paler (sometimes buffy white) on chin, throat, and abdomen; axillars and under wing-coverts and greater part of inner webs of remiges ochraceous-buff to tawny-buff or nearly tawny-ochraceous; bill, legs, and feet as in adult male; length (skins), 152–163 (157);[a] wing, 90;[b] tail, 63.5;[b] exposed culmen, 17–18 (17.5);[a] tarsus, 20.5–21 (20.7);[a] middle toe, 13.5–14 (13.7).[a]

Eastern Panama (vicinity of Panama Railway) and southward through Colombia (Santa Marta, Bonda, and Cacagualito, Santa Marta; Remedios, Antioquia) and Ecuador (Pallatanga; Babahoyo; Santa Rita; Monji; Balzar Mountains; Sarayacu; Yaguachi; Chimbo; Foreste del Rio Peripa; Vinces; Santo Domingo; Guanacillo) to northern Peru (Lechugal).

Pachyrhamphus homochrous SCLATER, Proc. Zool. Soc. Lond., 1859, 142 (Pallatanga, Ecuador; coll. P. L. Sclater); 1860, 279 (Babahoyo, Ecuador).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 473 (Lion Hill, Panama).

Hadrostomus homochrous SCLATER, Cat. Am. Birds, 1862, 240 (Pallatanga and Babahoyo, Ecuador); Cat. Birds Brit. Mus., xiv, 1888, 334, pl. 24 (Pallatanga, Babahoyo, Santa Rita, Monji, Balzar Mts., and Sarayacu, Ecuador; Lechugal, Peru; Santa Marta, Colombia; Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 517, pl. 42, fig. 12 (Remedios, Antioquia, Colombia; descr. nest and eggs).—(?) TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 326 (Peru); Orn. du Pérou, ii, 1884, 357.—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 93 (Yaguachi, Ecuador).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 124.—HARTERT, Novit. Zool., v, 1898, 489 (Chimbo, n. w. Ecuador).—SALVADORI and FESTA, Boll. Mus. Zool. Torino, xv, no. 362, 16 (Foreste del Rio Peripa and Vinces, w. Ecuador).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 154 (Cacagualito and Bonda, Santa Marta, Colombia.)—GOODFELLOW, Ibis, 1901, 710 (Santo Domingo and Guanacillo, Ecuador).

[*Hadrostomus*] *homochrous* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56.

[*Tityra*] *homochroa* GRAY, Hand-list, 1, 1869, 368, no. 5596.

[*Platypsaris*] *homochrous* SHARPE, Hand-list, iii, 1901, 163.

Genus ERATOR Kaup.

Erator KAUP, Proc. Zool. Soc. Lond., 1851, 47 (Type, *Lanius inquisitor* Lichtenstein.)

Exetastus BONAPARTE, [Ann. Sci. Nat., ser. 4, Zool., i, 1854, 134. (Nomen nudum.)

Exetastes (emendation) CABANIS and HEINE, Mus. Hein., ii, Oct., 1859, 83.

Medium-sized Cotingidæ, with close superficial resemblance to *Tityra*, but with bill relatively larger (about as long as head), much broader, more swollen, and less strongly uncinate, with gonys much longer than mandibular rami and destitute of median ridge; tarsus longer than middle toe with claw, the tarsal envelope quasi-taxaspidean (the planta tarsi with a continuous row of subquadrate scutella along

[a] Two specimens. [b] One specimen.

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each side); loral and orbital regions normally feathered, and adult females with side of head chestnut-brown and underparts unstreaked.

Bill about as long as head, broad and swollen, its width at nostrils much greater than its depth at same point, its lateral outlines obviously convex; culmen nearly straight for most of its length, strongly and rather suddenly decurved terminally, the tip of mandible obviously but rather minutely uncinate; gonys about one and a half times as long as mandibular rami, gently convex, without trace of median ridge; maxillary tomium faintly concave anteriorly, faintly convex subbasally, distinctly notched subterminally. Nostril small, obliquely oval, with narrow superior membrane, posteriorly in contact with latero-frontal feathering. Rictal bristles distinct. Wing moderate, with longest primaries exceeding secondaries by about length of tarsus; seventh and eighth primaries longest, the sixth and tenth, successively, shorter; ninth (in adult males) excessively reduced in size, very narrow and acuminate. Tail nearly two-thirds as long as wing, even, the rectrices rather broad and stiff, with broadly rounded or subtruncate tip. Tarsus about as long as exposed covering, its scutellation quasi-taxaspidean, the acrotarsal scutes occupying the anterior half, each side of the planta tarsi being occupied by a single continuous row of large subquadrate scutella, the two rows partly in contact along the posterior edge, but occasionally separated by a small interposed scutella; middle toe, with claw, shorter than tarsus, its basal phalanx adherent for about two-thirds its length to outer toe, for about one-half to inner toe; outer toe (without claw) reaching decidedly beyond, the inner about to, middle of subterminal phalanx of middle toe; hallux nearly as long as inner toe, not conspicuously stouter, its basal pad (tylarus) broad and flattened, with extended inner edge continuous with that of inner toe; claws rather large and strongly curved, compressed, and sharp.

Plumage and coloration.—Contour feathers broad and blended; whole head normally feathered, without crest. Adult males light gray above, pale gray or white beneath, with pileum, remiges, and broad band across tail (or whole tail) black, as in *Tityra;* adult females similar but with forehead and sides of head rusty brown.

Nidification.—(Unknown?)

Range.—Southern Mexico to Ecuador, Bolivia, and Brazil. (Four species.)

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KEY TO THE SPECIES OF ERATOR.

a. Auricular region pure white or black. (Adult males.)

b. Auricular region black.

c. Tail black (including tip) with only extreme base of inner web white.

d. Larger (wing 111–115 mm.). (Southeastern Brazil.)

Erator inquisitor inquisitor, adult male (extralimital)[a]

dd. Smaller (wing 98–105.5 mm.) (Northeastern Brazil to Guiana and Columbia.).....**Erator inquisitor erythrogenys**, adult male (extralimital)[b]

cc. Tail with basal half or more gray on outer webs, white on inner webs, and tip white. (Lower Amazon Valley to southern Brazil.)

Erator pelzelni, adult male (extralimital)[c]

bb. Auricular region white.

c. Upper parts deeper gray; inner webs of rectrices with more than basal half pale gray. (Southern Mexico to Peru.)

Erator albitorques, adult male (p. 863)

cc. Upper parts much paler gray, nearly white on secondaries and rump; inner webs of rectrices black for much the greater part. (Eastern Ecuador.)

Erator buckleyi, adult male (extralimital)[d]

aa. Auricular region rusty brown or chestnut. (Adult females and young.)

b. Tail black.

c. Larger (wing 103–106 mm.); back browner gray.

Erator inquisitor inquisitor, adult female (extralimital)

cc. Smaller (wing 96–100 mm.); back clearer gray.

Erator inquisitor erythrogenys, adult female (extralimital)

bb. Tail with basal half gray, tip (narrowly) white or pale gray.

Erator albitorques, adult female and young male (pp. 863, 864)

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[a] *L[anius] inquisitor* Lichtenstein, Verz. Doubl., 1823, 50 (São Paulo, s. Brazil; coll. Berlin Mus.).—*Psaris inquisitor* D'Orbigny, Voy. Am. Mérid., Ois., 1839, 302.—*Tityra inquisitor* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 239; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 331.—*E[xretastes] inquisitor* Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 84.—*Psaris jardinii* Swainson, Zool. Illustr., ser. 2, i, 1829, pl. 35 (int. of Brazil).—*Psaris nattereri* Swainson, Anim. in Menag., Jan. 1, 1838, 286 (=young male).—*Psaris selbii* Swainson, Anim. in Menag., Jan. 1,1838, 286.—*Tityra (Erator) inquisitrix* Pelzeln, Orn. Bras., ii. Abth., 1869, 120.—*Tityra atricapilla* (not of Vieillot, 1816) Bertoni, Av. Nuev. Parag., 1901, 109 (Paraguay).

[b] *Psaris erythrogenys* Selby, Zool. Journ., ii, 1826, 483 (Pernambuco, n. e. Brazil).—*Tityra erythrogenys* Berlepsch and Hartert, Novit. Zool., ix, Apr., 1902, 55 (Rio Catañapa, Perico, Maipures, and Suapuré, Venezuela).—*Tityra inquisitor erythrogenys* Hellmayr, Novit. Zool., xiii, July, 1906, 327, 328 (crit.).—*Tityra inquisitrix* Sclater, Proc. Zool. Soc. Lond., 1857, 18 (Bogota, Colombia).

[c] *Tityra (Erator) albitorques* (not *Tityra albitorques* Du Bus) Pelzeln, Orn. Bras., ii. Abth., 1869, 120.—[*Tityra*] *albitorques* Pelzeln, Orn. Bras., iv. Abth., 1870, 427.—*Tityra albitorques* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 332, part (Mattogrosso); Riker and Chapman, Auk, viii, 1891, 25 (Santarem, Lower Amazon); Allen, Bull. Am. Mus. N. H., v, 1893, 110 (Corumba and Chapada, Mattogrosso, s. w. Brazil).—*Tityra pelzelni* Salvin and Godman, Biol. Centr.-Am., Aves, ii, Dec., 1890, 120, footnote (Mattogrosso, s. w. Brazil; coll.?).

[d] *T[ityra] albitorques* (not of Du Bus) Allen, Auk, v, 1888, 287, in text (Rio Napo, e. Ecuador; crit.).—*Tityra albitorques* Allen, Bull. Am. Mus. N. H., ii, 1889, 73 (Rio Napo; crit.).—*Tityra buckleyi* Salvin and Godman, Biol. Centr.-Am., Aves, ii, Dec., 1890, 120, footnote (Yanayacu, e. Ecuador; coll.?).

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ERATOR ALBITORQUES (Du Bus).[a]

FRASER'S ERATOR.

Adult male.—Pileum (except posterior portion of occiput) and lores uniform black; nape and posterior portion of occiput pure white; hindneck, back, rump, upper tail-coverts, scapulars, wing-coverts (except outermost), and innermost secondaries uniform pale bluish gray (nearest no. 8, or between lavender and pearl gray); tail with basal half pale gray (paler gray or grayish white on inner webs), the remaining portion black, tipped, more or less broadly, with white; primaries, secondaries (except tertials), primary coverts, alula, outer webs of outermost greater and middle coverts, and adjacent lesser coverts, uniform black; auricular, suborbital, and malar regions, chin, throat, abdomen, and under tail-coverts pure white, the rest of under parts very pale bluish gray on chest and sides, fading gradually into the white of anterior and posterior portions; axillars, under wing-coverts, and basal half (or more) of inner webs of remiges, white; maxilla black, becoming more grayish (bluish gray in life) basally or beneath nostril; mandible dusky bluish gray (light bluish gray or grayish blue in life), sometimes blackish at tip; iris brown; legs and feet grayish dusky (bluish gray or plumbeous in life); length (skins), 169–193 (182); wing, 102.5–111.5 (108.3); tail, 58.5–69 (63.5); exposed culmen, 21.5–26 (23.4); tarsus, 20.5–23 (22.1); middle toe, 14.5–16 (14.7).[b]

Adult female.—A frontal patch of white to pale chestnut (this sometimes reduced to indistinctness by encroachment of black of pileum; rest of pileum uniform black, the posterior margin (on occiput) usually more or less irregular or broken; lores grayish or mixed grayish and rusty brown; auricular, suborbital, and malar regions (usually more or less of superciliary region also) chestnut-brown or burnt umber; nape and hindneck varying from grayish white to brown, sometimes more or less spotted with black; back and scapulars varying from grayisn brown to warm-sepia or prouts brown, the rump and upper tail-coverts similar but grayer, sometimes light brownish gray; tail as in adult male, but gray of basal portion browner, and black of subterminal portion rather less intense, the line of demarcation between the two colors much less sharp; wings as in adult male, but the black rather duller, the gray decidedly darker, and, usually,

[a] Not having been able to examine a single South American example of this species, I am compelled at present to follow Doctor Sclater and Messrs. Salvin and Godman in considering the birds from South America and those from Central America inseparable. For convenience, however, and especially in view of the possibility that careful comparison may, as in the case of *Tityra semifasciata* and *T. s. personata* (united by the authors mentioned), show constant and easily defined differences, I arrange the references in the synonomy as if there were really two forms.

[b] Twenty-six specimens.

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browner, the proximal lesser wing-coverts brownish or dark brownish gray instead of pale bluish gray; under parts (including under surface of wing), bill, iris, and feet, as in adult male; length (skins), 170–197 (184); wing, 101–110 (106.2); tail, 60.5–68 (64.7); exposed culmen, 21–25 (23.2); tarsus, 20–23 (21.8); middle toe, 14–16.5 (15.4).[a]

Immature male.—Similar to the adult female, but back and scapulars light gray instead of brown, and line of division between gray and black on tail sharply defined (as in adult males).

Young male (first plumage).—Similar to the immature male (as described above), but pale gray of upper parts much intermixed with pure white (causing a mottled appearance), forehead white, black of crown much intermixed with white (especially on median portion), auricular, suborbital, and malar regions pale chestnut-brown, and entire under parts pure white.

Young female (first plumage).—Similar to the young male, but gray of upper parts darker and tinged or suffused with brown, black of pileum intermixed with pale gray and chestnut-brown (instead of white), forehead strongly tinged with chestnut-brown, and whole orbital, auricular, and malar regions deep chestnut-brown.

Southeastern Mexico, in States of Vera Cruz (Playa Vicente; Buena Vista; Pasa Nueva; Motzorongo; San Andreas Tuxtla), Oaxaca (Tuxtepec), Tabasco (Teapa), Chiapas (Palenque), and Yucatan (Tizimin), and southward through Guatemala (Peten; Choctum), British Honduras (pine ridge near Manatee Lagoon), Honduras (Yaruca; San Pedro; Rio Segovia), Nicaragua (Greytown; Rio Escondido), Costa Rica (Bebedero; La Palma de Nicoya; Pigres; Pacuare; Reventazón;

[a] Eighteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from State of Vera Cruz	108.4	64.9	23.7	22.7	15.5
One adult male from Yucatan	114	67	24	23	16.5
Seven adult males from Chiapas (1), Guatemala (3), British Honduras (2), and Honduras (1)	110.5	64.2	23.9	22.2	15.4
Ten adult males from southern Honduras (1), Nicaragua (1), and Costa Rica (8)	107.6	63	22.9	21.9	15.2
Four adult males from Panama	104.4	61.1	23.2	21.4	14.7
FEMALES.					
Five adult females from Vera Cruz (4) and Oaxaca (1)	106.5	64.9	23.7	22.1	15.4
Five adult females from Guatemala (4) and British Honduras (1)	107.8	64.1	23.5	22.1	15.6
Seven adult females from Nicaragua (3) and Costa Rica (4)	105.4	64.1	23	21.6	15.1
One adult male from Panama	102	60.5	21	21	16

I am unable to detect any differences of coloration between specimens from different Central American and Mexican localities.

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Guapiles; San Bernardo; Juan Viñas; Guayabal; Bonilla), Panama (Chiriqui; Volcan de Chiriqui; Bugaba; Natá-Coclé; Lion Hill), Colombia (Remedios, Antioquia; Valencia; Bogotá), and Ecuador (Balzar Mountains) to Peru (Chyavetas).[a]

SOUTH AMERICAN REFERENCES.

Tityra albitorques Du Bus, Bull. Ac. Roy. Belg., xiv, pt. 2, 1847, 104 (Peru; coll. Brussels Mus.); Rev. Zool., 1848, 248.—Sclater, Proc. Zool. Soc. Lond., 1855, 77, 150 (Bogotá, Colombia); 1857, 71, part (monogr.); Cat. Am. Birds, 1862, 239, excl. syn., part (in synonymy); Cat. Birds Brit. Mus., xiv, 1888, 332, part (Remedios, Bogotá, and Valencia, Colombia; Balzar Mts., w. Ecuador; Chyavetas, e. Peru).—Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 751 (Rio Huallaga, e. Peru), 757 (do.; crit.); 1873, 284 (Chyavetas, e. Peru); 1879, 517 (Remedios, Antioquia, Colombia).—Salvin and Godman, Ibis, 1880, 169 (Valencia, Santa Marta, Colombia); Biol. Centr.-Am., Aves, ii, 1890, 119, part.—Taczanowski, Proc. Zool. Soc. Lond., 1882, 23 (Yurimaguas, n. e. Peru); Orn. du Pérou, ii, 1884, 355.—Taczanowski and Berlepsch, Proc. Zool. Soc. Lond., 1883, 559 (Guayaquil, w. Ecuador).

T[ityra] albitorques Gray, Gen. Birds, iii, 1849, App., p. 11.

[*Tityra*] *albitorques* Gray, Hand-list, i, 1869, 368, no. 5590, part.—Sclater and Salvin, Nom. Av. Neotr., 1873, 56.—Sharpe, Hand-list, iii, 1901, 162, part.

E[xetastes] albitorques Cabanis and Heine, Mus. Hein., ii, Oct., 1859, 84, excl. syn. *fraserii* Kaup (Peru).

CENTRAL AMERICAN AND MEXICAN REFERENCES.

Ps[aris] fraserii Kaup, Proc. Zool. Soc. Lond., 1851, 47, pls. 37 (male), 38 (female) (locality unknown; coll. Derby Mus.).

Tityra fraseri Salvin, Proc. Zool. Soc. Lond., 1870, 199 (Bugaba, Panama).—Sclater and Salvin, Proc. Zool. Soc. Lond., 1870, 837 (San Pedro, Honduras).—Boucard, Proc. Zool. Soc. Lond., 1883, 449 (Yucatan).—Ridgway, Proc. U. S. Nat. Mus., x, 1887, 589 (Segovia R., Honduras).

[*Tityra*] *fraseri* Sclater and Salvin, Nom. Av. Neotr., 1873, 56.

Tityra albitorques fraseri Ridgway, Proc. U. S. Nat. Mus., v, Sept. 5, 1882, 397 (La Palma de Nicoya, Costa Rica).

Tityra albitorques fraserii Bangs, Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Yaruca, Honduras).

Tityra albitorques fraseri Richmond, Proc. U. S. Nat. Mus., xvi, 1893, 508 (Rio Escondido, Nicaragua).

[*Exetastes*] *fraseri* Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 148 (Belize, British Honduras).

Tityra albitorques (not of Du Bus) Sclater, Proc. Zool. Soc. Lond., 1859, 56 (Peten, Guatemala), 384 (Playa Vicente, Vera Cruz); Cat. Am. Birds, 1862, 239, part (Oaxaca); Cat. Birds Brit. Mus., xiv, 1888, 332 (Oaxaca; Choctum, Guatemala; Tizimin, n. Yucatan; British Honduras; Bebedero, Costa Rica; Bugaba, Panama).—Moore, Proc. Zool. Soc. Lond., 1859, 56 (Peten district, Guatemala).—Salvin and Sclater, Ibis, 1860, 400 (Choctum, Vera Paz, Guatemala).—Lawrence, Ann. Lyc. N. Y., vii, 1862, 295 (Lion Hill, Panama);

[a] As stated in the footnote on page 863, the Central and South American birds of this species are only tentatively considered identical, it having been impossible for the writer to examine any South American examples.

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viii, 1867, 182 (Greytown, Nicaragua); ix, 1868, 116 (Pacuare, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 119, part (Mexican and Central American localities and references).

[*Tityra*] *albitorques* GRAY, Hand-list, i, 1869, 368, no. 5590, part.—SHARPE, Hand-list, iii, 1901, 162, part.

Erator albitorques SUMICHRAST, Mem. Bost. Soc. N. H., i, 1869, 558 (tierra caliente, Vera Cruz).

Genus TITYRA Vieillot.

Tityra VIEILLOT, Analyse, 1816, 39. (Type, *Lanius cayanus* Linnæus.)

"? *Becardia* RAFINQ., 1815." (Cabanis.)

Psaris CUVIER, Régne Anim., i, 1817, 340. (Type, *Lanius cayanus* Linnæus.)

(?) *Pachyrhynchus* WAGLER, in Hahn's Vögel aus Asien, etc., Lief. 13, 1822, pl. 6 and text. (Type, *P. melanocephalus* Wagler, = *Lanius cayanus* Linnæus.)

Medium-sized Cotingidæ (wing about 118–145 mm.) with large, stout, and strongly uncinate bill, small, circular, nonoperculate, exposed nostrils, naked loral and orbital regions, and coloration of black, white, and gray.

Bill shorter than head, stout, its depth at nostrils about equal to its width at same point and nearly equal to length of gonys; culmen broad and rounded (not at all ridged), nearly straight or gently convex for most of its length, strongly and rather abruptly decurved terminally, the tip of maxilla strongly uncinate; gonys about as long as mandibular rami, faintly convex, ascending terminally, and with a distinct median ridge; maxillary tomium nearly straight (faintly concave anteriorly), distinctly notched subterminally. Nostril exposed, small, roundish, without adjacent membrane. Rictal bristles absent. Wing moderate, with longest primaries exceeding secondaries by much more than length of tarsus; seventh and eighth primaries longest, the sixth and tenth successively shorter; ninth primary, in adult males, very small (not more than half as long as first), narrow, acuminate, and subfalcate. Tail about two-thirds as long as wing, even, the rectrices broad, with rounded tip. Tarsus about as long as exposed culmen, its scutellation modified pycnaspidean, the outer side being mostly broken up into small roundish or hexagonal scutella, like those of the planta tarsi; middle toe, with claw, about as long as tarsus, its basal phalanx mostly adherent to outer toe, about half united to inner toe; outer toe reaching (without claw) to nearly the end of subterminal phalanx of middle toe, the inner toe to about the middle of the same; hallux decidedly shorter than inner toe, not conspicuously stouter, its basal pad (tylarus) broad and flattened, with extruded inner edge continuous with that of inner toe.

Plumage and coloration.—Contour feathers broad and blended, the plumage compact; loral and orbital regions and anterior portion of malar region naked, the chin partly so; no crest or other ornaments. Adult males plain gray (paler beneath) with fore part of head (some-

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times whole pileum), remiges (except tertials), outermost greater wing-coverts, and at least part of tail black, the bill and naked loral and orbital skin reddish; adult females grayish brown or brownish gray above, indistinctly streaked beneath.

Nidification.—Nest in hole of a (usually dead) tree. Eggs (of *T. semifasciata personata*) "dark pinkish buff . . . the ground color almost completely hidden by irregular markings, lines, and blotches of chestnut-brown, these blotches darkest and most abundant about the larger end."[a]

Range.—Southern Mexico to southeastern Brazil, Paraguay, and Bolivia. (Four species.)

KEY TO THE SPECIES AND SUBSPECIES OF TITYRA.

a. Head partly (sometimes mostly) deep black, otherwise white or very pale bluish gray; back, scapulars, inner secondaries, rump, and upper tail-coverts uniform pale bluish gray or grayish white. (Adult males.)

b. Pileum and auricular region wholly black; tail entirely black or else only the tip and extreme base pale gray.

c. Tail entirely black; back, rump, etc., pale bluish gray; throat white (only the chin black); under parts of body very pale bluish gray or grayish white.

d. Bill with much more than terminal half black; black chin-spot larger. (Southeastern Brazil to Paraguay and Bolivia.)

Tityra brasiliensis, adult male (extralimital)[b]

dd. Bill with much less than terminal half black; black chin-spot smaller. (Colombia to Cayenne and Amazon Valley.)

Tityra cayana, adult male (extralimital)[c]

cc. Tail broadly tipped with pale gray, and with extreme base pale gray; most of throat (as well as chin) black; back, rump, etc., grayish white; under parts of body pure white. (Eastern Ecuador.)

Tityra nigriceps, adult male (extralimital)[d]

bb. Posterior half of pileum and auricular region white or pale gray; tail with at least basal half pale gray (white on inner webs). (*Tityra semifasciata.*)

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[a] Cherrie, Auk, ix, 1892, 322.

[b] *Psaris brasiliensis* Swainson, Anim. in Menag., Jan. 1, 1838, 286.—*T[ityra] brasiliensis* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 239.—*Tityra brasiliensis* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 329.—*Tityra cayana brasiliensis* Allen, Bull. Am. Mus. N. H., v, July 19, 1893, 110 (Chapada, s. w. Brazil).—*Psaris cayanus* (not *Lanius cayanus* Linnæus) D'Orbigny, Voy. Am. Mérid., iv, Ois., 1839, 301.—*Ps[aris] maximus* Kaup, Proc. Zool. Soc. Lond., 1851, 46 (locality not given; coll. Derby Mus.).

[c] *[Lanius] cayanus* Linnæus, Syst. Nat., ed. 12, i, 1766, 137 (Cayenne; based on *Lanius cayanensis* Brisson, Orn., ii, 158, 160, pl. 14, figs. 1, 2).—*Psaris cayanus* Lesson, Traité d'Orn., i, 1831, 378.—*T[ityra] cayana* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 238; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 328.—*Pachyrhynchus melanocephalus* Wagler, in Hahn's Vög., Lief. xiii, 1822, pl. 6 (=female).—*Tityra cinerea* Vieillot, Nouv. Dict. d'Hist. Nat., iii, 1816, 347 (=*Lanius cayanus* Latham); Tabl. Enc. Méth., ii, 1823, 859; Gal. Ois., i, 1826?, 217, pl. 134.—*Psaris nævius* Lesson, Traité d'Orn., i, 1831, 379 (=female).—*Psaris virgata* Smith (H.), in Griffith's Anim. Kingd., vi, 18—, 488 (=female).—*Psaris cayanensis* Swainson, Classif. Birds, ii, 1837, 255.—*Psaris guianensis* Swainson, Anim. in Menag., Jan. 1, 1838, 286.

[d] *Tityra nigriceps* Allen, Auk, v, July, 1888, 287 (headwaters of Rio Napo, e. Ecuador; coll. Am. Mus. N. H.); Bull. Am. Mus. N. H., ii, 1889, 73 (crit.).

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c. Paler gray above, becoming distinctly white or grayish white on head; larger (wing averaging 125.2, tail 71.9, exposed culmen 24.9, tarsus 25.5).

d. Black subterminal area on inner web of lateral rectrix smaller (sometimes wanting), usually not extending to shaft.

e. Black frontal area much broader, its posterior margin on a line with posterior angle of eye; averaging slightly larger (wing 125.7, tail 72.5, exposed culmen 25.2, tarsus 25.7). (Southern Brazil and Bolivia to central Colombia.)

Tityra semifasciata semifasciata, adult male (extralimital)[a]

ee. Black frontal area narrower, its posterior margin on a line with middle of eye; averaging slightly smaller (wing 124.7, tail 71.4, exposed culmen 24.6, tarsus 19.5). (Northern Colombia.)

Tityra semifasciata columbiana, adult male (extralimital)[b]

dd. Black subterminal area on inner web of lateral rectrices larger (never absent), usually extending to shaft; smaller (wing averaging 122.5, tail 70.4, exposed culmen 24.5, tarsus 25.4). (Panama to southern Honduras.)

Tityra semifasciata costaricensis, adult male (p. 869)

cc. Darker gray above, not becoming whitish nor distinctly paler gray on head.

d. Averaging smaller and slightly paler (wing 126.2, tail 73.1, exposed culmen 25.1, tarsus, 26.2). (Eastern Mexico to central Honduras.)

Tityra semifasciata personata, adult male (p. 871)

dd. Averaging larger and slightly darker (wing 134.7, tail 79.8, exposed culmen 25.8, tarsus 27.4). (Western Mexico.)

Tityra semifasciata griseiceps, adult male (p. 873)

aa. Head without any black (or else the black dull and covering whole pileum, and the back streaked), white, nor pale bluish gray. (Adult females.)

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[a] *Pachyrhynchus semifasciatus* Spix, Av. Bras., ii, 1825, 32, pl. 44, fig. 2 (Province of Pará, Brazil).—*Psaris semifasciatus* D'Orbigny, Voy. Am. Mérid., iv, Ois., 1839, 301.—*Tityra semifasciatus* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, i, 239; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 330, part.—*Tityra personata semifasciata* Allen, Bull. Am. Mus. N. H., v, July 19, 1893, 110 (Chapada, s. w. Brazil).—*Tityra personata* (not of Jardine and Selby) Sclater, Proc. Zool. Soc. Lond., 1860, 295 (Esmeraldas, w. Ecuador; crit.); Sclater and Salvin, Proc. Zool. Soc. Lond., 1873, 284 (Yurimaguas, e. Peru); Allen, Bull. Essex Inst., viii, 1876, 79 (Santarem, Lower Amazon); Bull. Am. Mus. N. H., ii, 1879, 73 (San Miguel and Rio Napo, e. Ecuador; crit.); Berlepsch, Proc. Zool. Soc. Lond., 1885, 118 (Esmeraldas, w. Ecuador); Goodfellow, Ibis, 1901, 709 (Santo Domingo, w. Ecuador; habits).—*?? Tityra semifasciata fortis* Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1896, 369 (La Gloria and La Mercéd, centr. Peru).

The last reference is placed with the synonymy of this form, not because I believe the form untenable but because I have not the necessary material for a clear understanding of the South American forms. However, one of the characters ascribed to *T. s. fortis* can not be relied on, namely, the entire absence of black on inner web of the outermost rectrix, one specimen from Chapada, Mattogrosso, southwestern Brazil, not having a trace of the usual black spot.

[b] (?) *Tityra personata* (not of Jardine and Selby) Sclater and Salvin, Proc. Zool. Soc. Lond., 1879, 517 (Remedios and Neche, Antioquia, Colombia; descr. nest and eggs); Berlepsch, Journ. für Orn., 1884, 305 (Bucaramanga, Colombia; crit.).—*Tityra personata* Salvin and Godman, Ibis, 1880, 169 (Minca, Santa Marta, Colombia).—*Tityra semifasciata* (not *Pachyrhynchus semifasciatus* Spix) Bangs, Proc. Biol. Soc. Wash., xii, 1898, 158 (Pueblo Viejo, Santa Marta); Allen, Bull. Am. Mus. N. H., xiii, 1900, 154 (Minca, Cacagualito, and Valparaiso, Santa Marta).—*Tityra semifasciata columbiana* Ridgway, Proc. Biol. Soc. Wash., xix, 1906, 119 (La Concepcion, Santa Marta, Colombia; coll. U. S. Nat. Mus.).

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b. Back and anterior under parts streaked with black or dusky.
c. Pileum dull black; much less than terminal half of bill blackish.
Tityra cayana, adult female (extralimital)
cc. Pileum pale brownish gray streaked with black; much more than terminal half of bill blackish.....**Tityra brasiliensis,** adult female (extralimital)
bb. Back and under parts without streaks.
c. Pileum decidedly darker brown or gray than back, not distinctly streaked.
d. Back clear or very slightly brownish gray.
Tityra semifasciata semifasciata, adult female (extralimital)
dd. Back distinctly brown or grayish brown.
e. Back light grayish brown.
Tityra semifasciata columbiana, adult female (extralimital)
ee. Back deep grayish brown or sepia brown.
f. Smaller (wing averaging 119.1, tail 67.7, exposed culmen 24.8, tarsus 25.2); upper parts darker.
Tityra semifasciata costaricensis, adult female (p. 870)
ff. Larger (wing averaging 126.3, tail 72.2, exposed culmen 25.5, tarsus 26.4); upper parts lighter.**Tityra semifasciata personata,** adult female (p. 872)
cc. Pileum not darker (sometimes paler) brownish gray than back, more or less distinctly streaked.....**Tityra semifasciata griseiceps,** adult female (p. 873)

TITYRA SEMIFASCIATA COSTARICENSIS Ridgway.

COSTA RICAN TITYRA.

Similar to *T. s. columbiana*,[a] but smaller, the adult male scarcely, if at all, distinguishable, but usually with black area on inner web of lateral rectrices larger; adult female much darker and browner, the back and scapulars deep grayish brown, pileum and auricular region darker grayish brown, the rump and upper tail-coverts darker gray.

Adult male.—Forehead (back to about on a line with middle of eyes), anterior portion (less than half) of auricular and malar regions, and chin black; rest of head white, usually faintly tinged with gray on crown and occiput, the hindneck very pale bluish gray deepening into clear, uniform pale bluish gray (about no. 9) on back, scapulars, lesser and middle wing-coverts, inner greater wing-coverts, tertials, rump, and upper tail-coverts; remiges (except tertials), outermost greater coverts, primary coverts, and alula, uniform black; tail with basal half or more very pale gray on outer webs, white on inner webs, the subterminal portion, very abruptly, uniform black, the tip (more broadly on lateral rectrices) very pale gray or grayish white; under parts of body very pale bluish gray (paler than no. 10), fading into pure white on throat and under tail-coverts; axillars and under wing-coverts wholly white or grayish white, the inner webs of remiges broadly edged (except terminally) with the same; terminal half to one-third (approximately) of bill blackish, the basal portion, together with naked loral and orbital regions, purplish red in life (drying pale

[a] See p. 868.

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brownish); iris light purplish red or pinkish; legs and feet dusky (bluish gray or plumbeous in life); length (skins), 188–211 (192); wing, 115.5–128 (122.5); tail, 64.5–74.5 (70.4); exposed culmen, 23.5–26.5 (24.5); tarsus, 24.5–26.5 (25.4); middle toe, 18–20 (18.9).[a]

Adult female.—Pileum, nape, auricular region, and malar region deep to dark sooty brown (deep grayish warm-sepia to between clove brown and seal brown), the feathers pale gray and white beneath surface; rest of upper parts plain deep grayish brown, becoming paler and decidedly grayer (nearly smoke gray) on lower rump and upper tail-coverts, the hindneck also sometimes suffused with grayish; wings much as in adult male but black of remiges, etc., duller, gray of coverts and tertials duller and more or less tinged with brownish, the latter mostly grayish brown, edged with pale gray; tail much as in adult male but the black subterminal area more extended, duller black, the line of demarcation between this and the basal gray much less abruptly defined, the gray duller or darker; under parts pale gray or grayish white fading into white on throat and into white or grayish white on under tail-coverts; bill, legs, and feet as in adult male; length (skins), 183–223 (197); wing, 112–126 (119.1); tail, 64.5–70 (67.7); exposed culmen, 22.5–26.5 (24.8); tarsus, 23.5–26.5 (25.2); middle toe, 17–20 (19.4).[b]

Young male (first plumage).—Essentially like adult females, but paler grayish brown above, the pileum indistinctly spotted with darker, the feathers of back and scapulars with an indistinct darker subterminal and a paler, more buffy, terminal bar; under parts nearly pure white.

Panama (Lion Hill; Boquete; Bugaba; David; Calovevora), Costa Rica (San José; Guaitil; Barranca; Caché; Dota; La Candelaria; Naranjo de Cartago; Turrialba; Bonilla; Carillo; Juan Viñas;

[a] Twenty specimens.

[b] Nineteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Panama	121.4	70.1	24.1	25.1	18.8
Ten adult males from Costa Rica (6), Nicaragua (2), and southern Honduras (2)	123.6	70.6	24.8	25.7	18.9
FEMALES.					
Eight adult females from Panama	118.1	67.7	24.8	25.1	18.7
Eleven adult females from Costa Rica (10) and Nicaragua (1).	119.7	67.7	24.8	25.3	19

Adult females from Panama average perceptibly paler and grayer brown above than those from Costa Rica and northward, thus showing a slight approach toward *T. s. columbianus*, of northern Colombia.

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Guapiles; Jiménez; Guayabal; Pacuarito; Rio Frio; Pigres; La Palma de Nicoya; Volcan de Miravalles), Nicaragua (Chontales; Ometepe; Rio Escondido; Managua), and southern Honduras (Rio Segovia).

Tityra personata (not of Jardine and Selby) SCLATER, Proc. Zool. Soc. Lond., 1857, 70, part (monogr.).—CABANIS, Journ. für Orn., 1861, 252 (Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 361 (Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 149 (David, Panama); 1870, 199 (Calovevora and Bugaba, Panama); Ibis, 1872, 318 (Chontales, Nicaragua).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 116 (San José, Guaitil, and Barranca, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 309 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 65 (Orosí, Costa Rica; habits).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 397 (La Palma de Nicoya, Costa Rica); vi, 1884, 393 (Ometepe, Nicaragua; habits).—CHERRIE, Auk, ix, 1892, 322 (San José, Costa Rica; descr. nest and eggs).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 507 (Rio Escondido, Nicaragua; habits; notes; food).—ALFARO, Paginas Illustradas, i, 1904, 564 (Costa Rica; habits; descr. nest and eggs).

[*Tityra*] *personata* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

Tityra semifasciata personata BANGS, Proc. New Engl. Zool. Club, ii, Sept. 20, 1900, 23 (Loma del Leon, Panama); iii, 1902, 40 (Boquete, Panama, 3,000 to 5,000 ft.).

T[ityra] *semifasciata* (not *Pachyrhynchus semifasciatus* Spix) CABANIS, in Wiegmann's Archiv. für Naturg., 1847, i, 239, part (Central America).

Tityra semifasciata SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 330, part (Chontales and Ometepe, Nicaragua; Caché, Turrialba, and San José, Costa Rica; Calovevora, Bugaba, and Lion Hill, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 118, part (Panaman, Costa Rican and Nicaraguan references and localities; Segovia R., Honduras).—UNDERWOOD, Ibis, 1896, 439 (Volcan de Miravalles, Costa Rica; notes).

[*Tityra*] *semifasciata* SHARPE, Hand-list, iii, 1901, 161, part.

Tityra mexicana (not *Psaris mexicanus* Lesson) SCLATER, Proc. Zool. Soc. Lond., 1856, 141, part (Nicaragua; Boquete, Panama).

Tityra semifasciata costaricensis RIDGWAY, Proc. Biol. Soc. Wash., xix, 1906, 119 (Bonilla, e. Costa Rica; coll. U. S. Nat. Mus.).

TITYRA SEMIFASCIATA PERSONATA (Jardine and Selby).

MEXICAN TITYRA.

Similar to *T. s. costaricensis*, but decidedly larger; adult male with the general gray color decidedly darker (no. 6 to no. 7 on back, etc., about no. 9 on under parts);[a] adult female averaging decidedly paler than that of *T. s. costaricensis* (back drab or broccoli brown to hair brown, the pileum sometimes but little darker).

Adult male.—Length (skins), 196–224 (209); wing, 122.5–137.5 (128.5); tail, 67.5–79.5 (73.1); exposed culmen, 23.5–26.5 (25.1); tarsus, 24.5–27.5 (26.2); middle toe, 17.5–20.5 (19.2).[b]

[a] The hinder part of pileum about the same color as the back of *T. s. costaricensis*.

[b] Twenty-six specimens.

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Adult female.—Length (skins), 185–211 (203); wing, 118.5–134 (126.3); tail, 66.5–80.5 (72.2); exposed culmen, 23–26.5 (25.5); tarsus, 25–28 (26.4); middle toe, 19–21 (19.7).[a]

Central and northern Honduras (Santa Ana; San Pedro; San Pedro Sula; Yaruca; Ceiba) and northward through Guatemala (Choctum; San Gerónimo; Iguana; Barranco Hondo; Naranjo[a]) and British Honduras (Pine ridge near Manatee Lagoon; Cayo: Belize) to eastern Mexico, in States of Yucatan (Mérida; Temax; Tizimin; La Vega; Chichen-Itza), Campeche (Apazote), Tabasco (Teapa; Frontera), Chiapas (Tuxtla-Gutierrez), Oaxaca (Santa Efigenia; Tapana[b]), Vera Cruz (Jalapa; Huatusco; San Lorenzo; Orizaba; Mirador; Playa Vicente; Medellin; Pasa Nueva; San Andreas Tuxtla; Motzorongo; Papantla), Hidalgo (Real del Monte), Guanajuato, San Luis Potosi (Jilitla), and southern Tamaulipas (Tampico; Alta Mira).

Tityra personata JARDINE and SELBY, Illustr. Orn., i, pt. 2, June, 1827, pl. 24 (Real del Monte, Hidalgo, Mexico; coll. W. Swainson).—SCLATER, Proc. Zool. Soc. Lond., 1857, 70, part (monogr.); 1859, 385 (Playa Vicente, Vera Cruz); 1864, 176 (near City of Mexico); Cat. Am. Birds, 1862, 238, part (Mexico).—MOORE, Proc. Zool. Soc. Lond., 1859, 56 (Belize, British Honduras; habits).—SCLATER and SALVIN, Ibis, 1859, 124 (Iguana, Guatemala).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 28 (Santa Efigenia, Oaxaca).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 448 (Yucatan; habits).—RICHMOND, Proc. U. S. Nat. Mus., xviii, 1896, 629 (Alta Mira, Tamaulipas).—CHAPMAN, Bull. Am. Mus. N. H., viii, 1896, 284 (Chichen-Itza, Yucatan).

[a] Nineteen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Vera Cruz (6) and Tabasco (1).....	131.4	73.9	24.9	26.6	19.4
Ten adult males from Guatemala (3) and Honduras (7).....	128.3	73.4	25.4	26	19.2
Nine adult males from Yucatan.....	126.5	71.1	24.8	26.1	19
FEMALES.					
Five adult females from Vera Cruz (4) and San Luis Potosi (1).....	131.6	75.5	26	26.6	20.2
Four adult females from Guatemala (2) and Honduras (2)..	124.4	70	25.6	26.1	19.4
Five adult females from Yucatan (4) and Campeche (1).....	123.2	70.7	25.1	26.4	19.4

Besides averaging decidedly smaller than those from other parts of Mexico (less so than those from Guatemala and Honduras, however), Yucatan examples are appreciably paler, especially females, which have the general color of the upper parts browner. It is possible the Yucatan birds (as in the case of so many other species) may require separation.

[b] The specimens examined from Naranjo, Guatemala, and Tapana, Oaxaca, are, if correctly sexed, intermediate between this form and *T. s. griseiceps*. The sex of the latter was not determined by the collector. Both may be young males instead of adult females.

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T[ityra] personata CABANIS and HEINE, Mus. Hein., ii, 1859, 83, part (Jalapa, Vera Cruz).

[*Tityra*] *personata* GRAY, Hand-list, i, 1869, 367, no. 5586, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 56, part.

T[ityra] semifasciata personata BERLEPSCH, Journ. für Orn., Jan., 1889, 3, in text (crit.).—HARTERT, Kat. Vogelsamml. Senckenb., 1891, 105 (Mexico).

Tityra semifasciata personata BANGS, Bull. Mus. Comp. Zool., xxxix, 1903, 149 (Ceiba and Yaruca, Honduras).

Psaris mexicanus LESSON, Rev. Zool., ii, Feb., 1839, 41 (Mexico; coll. Abeillé).

Tityra mexicana SCLATER, Proc. Zool. Soc. Lond., 1856, 141, part (Cordova, Vera Cruz), 297 (Mexico).

Psaris tityröides LESSON, Rev. Zool., v, July, 1842, 210 (San Carlos, Salvador; coll. Lesson ?).

T[ityra] semifasciata (not *Pachyrhynchus semifasciatus* Spix) CABANIS, in Wiegmann's Archiv. für Naturg., 1847, i, 239, part (Jalapa).

Tityra semifasciata SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 330, part (Jalapa, Vera Cruz; Mérida, etc., Yucatan; Belize, British Honduras; Choctum and Barranco Hondo, Guatemala; San Pedro, Honduras).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 118, part (Real del Monte, Hidalgo; Jalapa, Huatusco, San Lorenzo, Orizaba, and Playa Vicente, Vera Cruz; Tapana, Oaxaca; Mérida, Yucatan; Belize, etc., British Honduras; Guatemalan localities and references; San Pedro, Honduras).—LANTZ, Trans. Kansas Ac. Sci. for 1896–97 (1899), 221 (Naranjo, Guatemala).

[*Tityra*] *semifasciata* SHARPE, Hand-list, iii, 1901, 161, part.

TITYRA SEMIFASCIATA GRISEICEPS (Ridgway).

GRAY-HEADED TITYRA.

Adult male apparently not distinguishable from that of *T. s. personata* (possibly averaging very slightly darker), but adult female exceedingly different, the general color of upper parts light brownish gray (between smoke gray and drab-gray), the pileum not darker, but becoming paler on forehead and more or less distinctly, though narrowly, streaked with darker.

Adult male.—Length (skins), 196–238 (214); wing, 130–142 (134.7); tail, 76–85.5(79.8); exposed culmen, 23.5–27 (25.8); tarsus, 26.5–28.5 (27.4); middle toe, 19.5–22 (20.9).[a]

Adult female.—Length (skins), 213–225 (218); wing, 121–135.5 (129.7); tail, 74.5–81.5 (76.4); exposed culmen, 24.5–27.5 (26); tarsus, 26.5–29 (27.3); middle toe, 19–21 (20).[a]

Western Mexico, in States of Sinaloa (Mazatlan; Presidio de Mazatlan; Rosario; Escuinapa; Plomosas; Los Pieles; Mount Juan Lisiarraga), Durango (Chacala), Jalisco (Tolima; Beltran), Colima (Sierra Madre; Santiago near Manzanillo), Guerrero (Dos Arroyos; Omilteme; Acapulco; Nuevo Egido; Acahuitzotla), and Oaxaca (Pinotepa; Pluma; Cacoprieto), and Territory of Tepic (Santiago; Santa Teresa).

[a] Ten specimens.

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Tityra personata (not of Jardine and Selby) LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 289 (Mazatlan, Sinaloa; Sierra Madre, Colima; habits).

Tityra semifasciata (not *Pachyrhynchus semifasciatus* Spix) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 330, part (Presidio de Mazatlan, Sinaloa).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1890, 118, part (Presidio de Mazatlan; Santa Efigenia, Oaxaca).

Tityra personata griseiceps RIDGWAY, Auk, v, July, 1888, 263 (Mazatlan, Sinaloa; coll. U. S. Nat. Mus.).—MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 355 (Mount Juan Lisiarraga, Sinaloa; fresh colors of unfeathered parts).

[*Tityra*] *griseiceps* SHARPE, Hand-list, iii, 1901, 161.

Genus QUERULA Vieillot.

Querula VIEILLOT, Analyse, 1816, 37. (Type, *Muscicapa rubricollis* Gmelin, = *Muscicapa purpurata* Müller.)

Threnoedus GLOGER, Hand-u. Hilfsb. Nat., 1842, 319. (New name for *Querula*.)

Large Cotingidæ (wing about 165–190 mm.) of uniform black color (the adult male with a large wine-red or dull crimson throat-patch), the head normally feathered, the bill broad and depressed basally.

Bill much shorter than head (exposed culmen shorter than tarsus), rather broadly triangular in vertical profile, its lateral outlines faintly convex to near tip, where rather suddenly contracted; culmen forming a fairly well-defined ridge, straight or nearly so for basal half, strongly decurved terminally, the tip of maxilla moderately uncinate; gonys faintly convex, slightly longer than mandibular rami, the interramal space about equal in length and basal width; width of bill at nostrils about equal to length of mandibular rami, much greater than its depth at same point; maxillary tomium nearly straight, distinctly notched subterminally. Nostril partly concealed by antrorse latero-frontal bristly plumules, rather small, longitudinally oval, margined above and behind by broad membrane. Rictal bristles distinct, strongly recurved. Wing long and broad, with longest primaries exceeding secondaries by more than length of tarsus; sixth to eighth primaries longest, the tenth about equal to second. Tail about two-thirds as long as wing, even or slightly rounded, the rectrices broad, with rounded tip. Tarsus longer than exposed culmen, its scutellation typically pycnaspidean; middle toe, with claw, decidedly longer than tarsus, its basal phalanx adherent for greater part to outer toe, for about half its length to inner toe; outer toe reaching nearly to end of subterminal phalanx of middle toe, the inner to about its middle; hallux decidedly shorter than inner toe, but much stouter, its basal pad (tylarus) broad and flattened, with its extruded inner edge continuous with that of inner toe; claws rather large, strongly curved, compressed.

Plumage and coloration.—Contour feathers in general normal (rather broad and blended), the male, however, with feathers of

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throat elongated with barbs (rami), straight, stiffened, and nearly destitute of barbules (radii); head wholly feathered; no crest nor wattles. Coloration uniform black, the adult male with a large throat-patch of wine-red or dull crimson.

Nidification.—Unknown.

Range.—Costa Rica to Amazon Valley. (Monotypic.)

QUERULA PURPURATA (Müller).

PURPLE-THROATED FRUIT-CROW.

Adult male.—A large patch of glossy dark reddish purple (maroon purple or burnt-carmine) covering whole throat (except extreme upper portion), composed of elongated, somewhat stiffened, rather narrow feathers, with subtruncate tips; rest of plumage uniform black, very slightly duller on under parts; bill dusky (in dried skins), with paler tomia, bright horn bluish in life; iris brown; legs and feet black; length (skins), 254–285 (269); wing, 175.5-195 (181.9); tail, 110.5–121 (115.9); exposed culmen, 21–25 (23.5); tarsus, 22.5–25 (23.8); middle toe, 17.5–20 (19.5).[a]

Adult female.—Similar to the adult male, but without any purplish on throat (this entirely replaced by black); length (skins), 230–257 (249); wing, 166.5–177.5 (172.2); tail, 107–113 (109.1); exposed culmen, 20–25 (22.1); tarsus, 21.5–24 (23.1); middle toe, 17–19 (18.4).[b]

[a] Fourteen specimens.

[b] Eight specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Costa Rica	180.1	115.6	23	23.7	19.5
Five adult males from Panama	182.5	116.4	23.2	24.1	19.7
Four adult males from British Guiana (1) and Cayenne (2)	183.2	115.9	24.5	23.7	19
FEMALES.					
Three adult females from Costa Rica	172.2	109.3	21.7	22.5	17.3
Four adult females from Panama	173.1	108.2	21.8	23.4	19.1
One adult female from Venezuela	168.5	112	25	24	18.5

Costa Rica (Angostura; Payua; Talamanca; "San Jose") and southward through Panama (Veragua; Montaña del Vermejo; El Real; Panama City; Lion Hill; Frijole), Colombia (Rio Atrato; Bogotá; Medellin, Neche, Pocune, and Remedios, Antioquia), Ecuador (Sarayacu; Balzar Mountains; Foreste del Rio Peripa), Venezuela (Suapuré and La Pricion, Caura River), British Guiana (Essequibo River; Demerara; Bartica Grove), Surinam, and Cayenne to

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northeastern Brazil (Rio Capim) and Amazon Valley (Diamantina and Santarem, Lower Amazon; Chamicuros, Rio Ucayali, and Rio Javari, eastern Peru).

Muscicapa purpurata MÜLLER, Syst. Nat. Suppl., 1776, 169 (based on *Gobe-Mouche noir à gorge pourpre de Cayenne* Daubenton, Pl. Enl., pl. 381).

Querula purpurata CASSIN, Proc. Ac. Nat. Sci. Phila., 1864, 256.—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 58 (Suapuré, and La Pricion, Caura R., Venezuela).

[*Querula*] *purpurata* GRAY, Hand-list, i, 1869, 374, no. 5674.

Muscicapa cruenta BODDAERT, Tabl. Pl. Enl., 1783, 23 (based on *Gobe-Mouche noir à gorge pourpre de Cayenne* Daubenton, Pl. Enl., pl. 381).

Querula cruenta SCLATER, Proc. Zool. Soc. Lond., 1855, 153 (Bogota, Colombia); Cat. Am. Birds, 1862, 257 (Cayenne; Peruvian Amazons); Cat. Birds Brit. Mus., xiv, 1888, 396 (Demerara and Bartica Grove, British Guiana; Cayenne; Chamicuros and Rio Ucayali, e. Peru; Sarayacu and Balzar Mts., Ecuador; Bogota and Medellin and Nichi, Province Antioquia, Colombia; Panama City and Montaña del Vermejo, Panama; Angostura, Costa Rica).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 296 (Lion Hill, Panama); ix, 1868, 117 (Angostura and Payua, Costa Rica).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 362 (Panama Railway; crit.); 1866, 191 (Rio Ucayali, e. Peru); 1867, 580 (Capim R., lower Amazons); 1873, 285 (upper Ucayali and Rio Javari, e. Peru); 1879, 520 (Pocune and Remedios, Antioquia, Colombia).—FRANTZIUS, Journ. für Orn., 1869, 310 (Costa Rica).—ALLEN, Bull. Essex Inst., viii, 1876, 79 (Santarem, Lower Amazon).—PELZELN, Orn. Bras., ii. Abth., 1869, 134; iv. Abth., 1870, 429.—TACZANOWSKI, Orn. du Pérou, ii, 1884, 389.—SALVIN, Cat. Strickland Coll., 1882, 330 (Demerara, British Guiana); Ibis, 1885, 305 (British Guiana).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 144.—RIKER and CHAPMAN, Auk, viii, 1891, 25 (Santarém).—SALVADORI and FESTA, Boll. Mus. Zool. Torino, no. 362, 1899, 18 (Foreste del Rio Peripa, w. Ecuador; fresh colors of unfeathered parts).—BANGS, Proc. New Engl. Zool. Club, ii, 1900, 23 (Loma del Leon, Panama).—GOELDI, Ibis, 1903, 499 (Rio Capím, n. e. Brazil.)

[*Querula*] *cruenta* SCLATER and SALVIN, Nov. Av. Neotr., 1873, 59.—SHARPE, Hand-list, iii, 1901, 176.

T[*hrenoëdus*] *cruentus* CABANIS and HEINE, Mus. Hein., ii, Nov., 1859, 107 (Cayenne; Surinam).

[*Threnoedus*] *cruentus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 153 (Cayenne; Surinam).

[*Muscicapa*] *rubricollis* GMELIN, Syst. Nat., i, pt. ii, 1788, 933 (based on "*Piauhau*." Buffon, Hist. Nat. Ois., iv, 588, etc.).—BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 419.

Muscicapa rubricollis VIEILLOT, Nouv. Dict. d'Hist. Nat., xxvi, 1818, 66, pl. M. 9, fig. 2.

Querula rubricollis VIEILLOT Tabl. Enc. Méth., ii, 1823, 768; Gal. Ois., ii, 1834, 181, pl. 115.—LESSON, Traité d'Orn., i, 1831, 363.—SCLATER, Proc. Zool. Soc. Lond., 1857, 265 (Rio Javari and Tunantins, up. Amazons).—DESCOURTILZ, Orn. Brés., 1856, pl. 25, fig. (2).

Q[*uerula*] *rubricollis* HARTLAUB, Syst. Verz., 1844, 47 (Guiana).

[*Querula*] *rubricollis* BONAPARTE, Consp. Av., i, 1850, 179.

Coracina rubricollis TEMMINCK, Tabl. Méth., 1822, 20.—BURMEISTER, Verz. Mus. Hal., 1850, 48.

Threnoëdus rubricollis CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 691.

Muscicapa porphyrobroncha SHAW, Nat. Misc., ii, no. 9, April, 1791, pl. 63 (Cayenne, etc.).

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Genus CEPHALOPTERUS Geoffroy St.-Hilaire.

Cephalopterus Geoffroy St.-Hilaire, Ann. du Mus., xiii, 1809, 235. (Type, *C. ornatus* Geoffroy St.-Hilaire).

Alticeps Gistel, Naturg. des Thierreichs für höhere Schulen, 1848, p. viii. (New name for *Cephalopterus* Geoffroy St.-Hilaire.)

Very large, uniform black Cotingidæ, with an erect umbrella-like crest.

Bill shorter than head, broad and rather depressed at base, its width at nostrils considerably exceeding its depth at same point; culmen forming a broad rounded ridge, gradually curved from base, more strongly so terminally, the tip of maxilla distinctly but obtusely uncinate; maxillary tomium distinctly notched subterminally, gently concave or nearly straight behind notch, slightly convex basally; gonys longer than mandibular rami, but decidedly shorter than distance from nostril to tip of maxilla; interramal space broader basally than long. Nostrils exposed, obliquely broadly oval. Rictal bristles well developed, recurved. Wing long and broad, with longest primaries exceeding secondaries by about the length of exposed culmen; sixth, seventh, and eighth primaries longest, the ninth shorter than fifth, the tenth about equal to first (both decidedly shorter than longest secondaries), all of normal form. Tail about half as long as wing, distinctly rounded, the rectrices broad, with rounded or faintly acuminate tip. Tarsus about as long as mandible (to commencement of malar feathering), its scutellation typically pycnaspidean; middle toe, with claw, about as long as tarsus, its basal phalanx completely adherent to outer toe, more than half adherent to inner toe; outer toe decidedly but not conspicuously shorter than middle toe, the inner (without claw) reaching to about middle of subterminal phalanx of middle toe; hallux (without claw) decidedly shorter than inner toe but much stouter, its basal pad (tylarus) broad and flattened, its conspicuously extruded inner edge continuous with that of the inner toe; claws moderate in size, rather strongly curved, broad, and compressed.

Plumage and coloration.—Contour feathers in general broad and rounded, distinctly outlined, especially on upper parts; those on sides of head narrower, more blended, with rather conspicuously developed shafts on loral and orbital regions. Pileum with a very conspicuous erectile crest of nearly straight more or less rigid feathers, surmounted by an expanded, recurved, loosely webbed tip; this crest is attached to a contractile skin, and when erected and expanded forms a remarkable and wholly unique dome-like or umbrella-shaped ornament. To the center of the foreneck is attached an elongated, slender, pendant appendage, covered with imbricated feathers in two species (in one of which it reaches the remarkable length of more than 300 mm.,

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or 13 inches), but in one naked except at tip, the latter species having the entire foreneck denuded and covered with an inflatable skin of a scarlet or reddish orange color. In all species the coloration is uniform black (in both sexes), sometimes with white on under wing-coverts.

Range.—Costa Rica to western Ecuador, Bolivia, and southwestern Brazil. (Three species.)

KEY TO THE SPECIES OF CEPHALOPTERUS.

a. Under parts of body deep black; umbrella-like crest larger, with conspicuously recurved margins; a conspicuous gular appendage. (Adult males.)

b. Throat and foreneck entirely feathered; gular appendage entirely covered with broad, imbricated feathers.

c. Stems of frontal plumes white (except terminally); under wing-coverts mostly blackish or dusky (partly light grayish); gular appendage shorter (75–155 mm., to end of terminal feathers). (Colombia to Guiana, Brazil, and Bolivia.) **Cephalopterus ornatus** (extralimital)[a]

cc. Stems of frontal plumes black (except at extreme base); under wing-coverts extensively white; gular appendage longer (sometimes more than 300 mm.) (Western Ecuador.) ..... **Cephalopterus penduliger** (extralimital)[b]

bb. Throat and foreneck naked (only the upper throat and chin feathered); gular appendage naked with a tuft of small narrow feathers at tip. (Costa Rica and Panama.) ..... **Cephalopterus glabricollis**, male (p. 878)

aa. Under parts of body dull black or sooty brown, the feathers with narrow paler margins; crest much smaller, without recurved margins; gular appendage very short or rudimentary. (Adult females.)

b. No visible naked space on side of neck; under parts of body black; crest glossy blue-black ..... **Cephalopterus ornatus**, female (extralimital)[c]

bb. A conspicuous naked space on side of neck; under parts of body dark grayish brown or sooty; crest dull black.... **Cephalopterus glabricollis**, female (p. 879)

CEPHALOPTERUS GLABRICOLLIS Gould.

BARE-NECKED UMBRELLA BIRD.

Adult male.—General color black, the umbrella-shaped crest faintly glossed with violet-bluish, the feathers of hindneck margined with steel blue, the rest of upper parts faintly glossed with the same or with more violaceous blue; under parts of body duller (more sooty) black, the feathers with pale brown or dull whitish shafts; sides of

[a] *Cephalopterus ornatus* Geoffroy, Ann. d. Mus. Paris, xiii, 1809, 238, pl. 17; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 399.—*Coracina ornata* Spix, Av. Bras., i, 1824, 63, pl. 59.—*Coracina cephaloptera* Vieillot, Nouv. Dict. d'Hist. Nat., viii, 1817, 5, pl. B. 22, fig. 2 (Brazil); Gal. Ois., i, 1826?, 179, pl. 114; Temminck, Pl. Col., livr. 43, 1824, pl. 255.—C[oracina] *ornata* Lafresnaye and D'Orbigny, Mag. de Zool., 1839 (Synop. Av., p. 39).—*Ampelis umbellata* Shaw, Nat. Misc., xxi, no. 6, Feb., 1810, pl. 897 (new name for *Cephalopterus ornatus* Geoffroy).

[b] *Cephalopterus penduliger* Sclater, Ibis, Jan., 1859, 114, pl. 3 (Pallatanga, w. Ecuador; coll. P. L. Sclater); Cat. Birds Brit. Mus., xiv, 1888, 400.

[c] The female of *C. penduliger* not seen by me.

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neck, whole foreneck, lower throat, and median portion of chest and breast covered with naked, inflatable skin, with a narrow median line of rudimentary feathers (only the shafts developed), running from feathered area of upper throat to base of the appendage on lower portion of foreneck, the latter naked but tipped with several long, narrow, somewhat spatulate feathers; under wing-coverts partly pale gray; inner webs of remiges brownish gray; bill dusky horn color (in dried skins); the mandible paler; legs and feet dusky horn color (in dried skins); length (skin),[a] 450; wing, 244.5–253 (249.4); tail, 116–120.5 (117.6); exposed culmen, 31.5–34 (32.1); tarsus, 40.5–45 (43.4); middle toe, 36–37 (36.4).[b]

Adult female.—Much smaller than the male, with crest much smaller and without recurved or repand margins; whole throat and foreneck feathered, but lower portion of the latter with feathered area contracted; under parts of body dull grayish or brownish black to sooty grayish brown, the feathers with narrow margins of paler; length (skins), 335–415 (374); wing, 217–227 (224.3); tail, 111.5–132 (118.3); exposed culmen, 30–35 (32.5); tarsus, 38–44 (32.5); middle toe, 30–35 (32.4).[c]

Highlands of Costa Rica (Dota Mountains; Angostura; Turrialba; Volcan de Irazú, up to 10,000 feet; Bonilla; Coliblanco; Guacimo; La Palma de San José; "San José"; Rio Sicsola) and western Panama (Cordillera de Chiriqui, 8,000 feet; Cordillera de Tolé; Calovevora; Boquete, 4,000 to 6,000 feet).

Cephalopterus glabricollis GOULD, Proc. Zool. Soc. Lond., 1850, 92, pl. 20 (Cordillera de Chiriqui, 8,000 ft. alt., Panama; coll. T. B. Wilson; type now in coll. Acad. Nat. Sci. Phila.).—CABANIS, Journ. für Orn., 1861, 254 (Costa Rica).—SALVIN, Proc. Zool. Soc. Lond., 1867, 150 (Cordillera de Tolé and Cordillera de Chiriqui, Panama; Turrialba, Costa Rica; crit.); 1870, 201 (Calovevora and Calobre, Panama).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 117 (Dota Mts., Angostura, and San José, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 310 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 66 (San Carlos and Volcan de Irazú, up to 10,000 ft., Costa Rica; habits).—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 400 (Turrialba, Costa Rica; Cordillera de Tolé and Calovevora, Panama).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 145.—BANGS, Proc. New Engl. Zool. Club, iii, 1902, 51 (Boquete, Panama, 4,000 to 6,000 ft.).—RIDGWAY, Condor, vii, 1905, 156, in text (Bonilla, Costa Rica).

C[*ephalopterus*] *glabricollis* CABANIS and HEINE, Mus. Hein., ii, 1859, 110, footnote.

[*Cephalopterus*] *glabricollis* GRAY, Hand-list, i, 1869, 375, no. 5683.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 59.—SHARPE, Hand-list, iii, 1901, 177.

[a] One specimen. [b] Four specimens. [c] Five specimens.

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Genus PROCNIAS Illiger.

Procnias [a] ILLIGER, Prodromus Syst. Mam. et Av., 1811, 228. (Type, by elimination, *Ampelis variegata* Gmelin.)[b]

?*Averanus* RAFINESQUE, Analyse, 1815, 67. (A nomen nudum).

Averano LESSON, Traité d'Orn., 1831, 364. (Type, *Ampelis variegata* Gmelin.)

Averanos (emendation) STRICKLAND, Ann. and Mag. Nat. Hist., vii, Mar., 1841, 29.

Casmarhinchos TEMMINCK, Man. d'Orn., 2d ed., i, 1820, p. lxiii (Analyse). (Type, by elimination, *Ampelis carunculata* Gmelin=*Ampelis nivea* Boddaert.)

Casmarhynchus (emendation) SPIX, Avium. Sp. Nov., ii, 1825, 3.

Casmorhynchus (emendation) SWAINSON, Classif. Birds, i, 1836, 55, in text; ii, 1837, 75, 252, in text.

Casmarhynchos (emendation) TEMMINCK, Tabl. Méth., 1839, 21.

Chasmorhynchus (emendation) GLOGER, Gem. Hand-u. Hilfsb. Nat., Bd. i, 1842, 320.

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[a] "A Procne in hirundinem mutata."

[b] The species given by Illiger as examples of his genus *Procnias* are (1) *Ampelis variegata* Gmelin, (2) *Ampelis carunculata* Gmelin?, and (3) *Hirundo viridis* Temminck ("*Ampelis variegata, carunculata*? Lin Gmel. *Hirundo viridis* Temminck catalog"). The first and second of these are members of the present genus. The third is the female or young male of the Tanager-like bird generally known as *Procnias tersa*. *P. viridis*, or *P. cærulea;* and instead of being the type of the genus *Procnias* Illiger, as commonly supposed, was the first of the three to be withdrawn from that genus, Vieillot having in 1816 (Analyse, p. 38) based his genus *Tersa* upon the same species (although the type is given as "Tersine Buff[on]"=*Ampelis tersa* Linnæus, an unidentified species, while in 1819 (Nouv. Dict. d'Hist. Nat. xxxiii. 401) he renamed the genus, this time calling it *Tersina* and giving as the type *Tersina cærulea* Vieillot. Just what the interrogation point following the name *carunculata* means in Illiger's "Prodromus" it is difficult to determine, but it may have been intended to indicate doubt as to that species really belonging to *Procnias;* at any rate, the type of *Procnias* Illiger would, in view of Vieillot's disposition of *Hirundo viridis* Temminck, necessarily be either *Ampelis variegata* Gmelin or *A. carunculata* Gmelin, since Temminck first named and characterized the genus *Casmarhinchos* (subsequently variously "emended" by other authors) in 1820, the type (by elimination) being *Ampelis variegata* Gmelin. In other words, *Casmarhinchos* Temminck is a synonym of *Procnias* Illiger.

In view of the fact that Vieillot gives "Tersine Buff[on]" as the type of his genus *Tersa*, notwithstanding the generic diagnosis evidently was taken from the bird commonly but erroneously (both as to its generic and specific names) called *Procnias tersa*, it is difficult to decide whether this name should be used instead of *Tersina* of later date or not. It is not necessary, however, in the present connection, that this question be decided, it being sufficient to cite the references to the original publication of the names in question, which are as follows:

Tersa Vieillot, Analyse, 1816, 38 (the diagnosis pertinent, but type given as *Tersine* of Buffon, a species which has never been satisfactorily identified and which certainly can not be the bird commonly called *Procnias tersa*).—*Tersina* Vieillot, Nouv. Dict. d'Hist. Nat., xxxiii, 1819, 401 (type, *Tersina cærulea* Vieillot).—*Procnias* (not of Illiger, 1811) Temminck, Man. d'Orn., 2d ed., i, 1820, p. lxiii (type, *Hirundo viridis* Temminck).

As a consequence of this change in the generic name, the family name Procniatidæ (Ridgway, Proc. U. S. Nat. Mus., xviii, no. 1076, June 24, 1896, 449) must be changed to Tersidæ or Tersinidæ, according to which of the two names, *Tersa* or *Tersina*, are adopted.

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"*Casymorhynchus* [emendation] GRAY, 184–" (Gray, Hand-list, i, 1869, 375.)
Arapunga LESSON, Traité d'Orn., 1831, 365. (Type, *Ampelis nudicollis* Vieillot.)
Eulopogon GLOGER, Gem. Hand-u. Hilfsb. Nat., 1842, 321. (Type, *Ampelis variegata* Gmelin.)

Large Cotingidæ (wing about 145–170 mm.) with weak and depressed bill, gonys much shorter than the long and narrow mandibular rami, and commissure twice as long as culmen.

Bill weak, broad and depressed basally, deeply cleft, the commissure extending to beneath eyes; culmen less than two-thirds as long as tarsus, curved nearly from base, the tip of maxilla weakly uncinate; gonys very short (about half as long as the narrow mandibular rami), decidedly convex; commissure very long (twice as long as culmen, or more, the rictus posterior to anterior angle of eye), more or less arched; both the maxillary and mandibular tomia notched subterminally. Nostril exposed, rather large, oval, in anterior end of nasal fossæ. Rictal bristles absent (but a few bristles projecting over loral portion of commissure in females of some species). Wing long and broad, the longest primaries exceeding secondaries by more than length of tarsus; sixth and seventh, or sixth to eighth, primaries longest, the tenth about as long as second or third or intermediate between fourth and fifth. Tail about two-thirds as long as wing, even, slightly rounded, or faintly emarginate, the rectrices moderately broad, with rounded or subacuminate tip. Tarsus much shorter than commissure, its scutellation typically pycnaspidean; middle toe, with claw, slightly longer than tarsus, its basal phalanx united for greater part to outer toe, for nearly as much to inner toe; outer toe decidedly shorter than middle one, very little longer than inner toe; hallux decidedly shorter than inner toe, but much stouter, its basal pad (tylarus) broad and flattened, with the conspicuously extruded inner edge continuous with that of inner toe; claws rather short, broad, and compressed.

Plumage, coloration, and ornaments.—Contour plumage soft, blended; no crest or other elongated feathers about head or neck. Adult males with more or less elongated, usually naked, caruncular appendages to forepart of head, or on throat, or else the throat, together with loral, orbital, and malar regions, denuded, the color of the plumage entirely white, white with brown head and black wings, or chestnut-rufous with white head and neck. Adult females destitute of appendages or wattles, the plumage plain olive-green above, striped with olive-green and yellowish beneath.

Nidification.—Unknown.

Range.—Costa Rica to southeastern Brazil, but apparently absent from Amazon Valley. (Four species.)

Notwithstanding the great amount of difference between adult males of this group, I am inclined to consider them as constituting a single genus. In every other superspecific group of the family to

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which generic rank is given in the present work, the generic characters are apparent (only to a less degree) in the females as well as in the males; but such is not the case (so far as I am able to discover, at least) in the present genus, the females of which are not only closely similar in coloration but in external structural details also.

KEY TO THE SPECIES OF PROCNIAS.[a]

a. General color white, or chestnut-rufous with white head and neck; an elongated fleshy frontal appendage or else whole throat naked. (Adult males.)

b. Head and neck white; wings white or chestnut-rufous; no vermiform appendages on throat.

c. Throat feathered; an elongated fleshy frontal appendage.

d. Whole plumage white; frontal appendage sparsely feathered; no rictal appendages. (Guiana, Surinam, and Cayenne.)

Procnias nivea (extralimital)[b]

dd. Only the head and neck white, the rest of plumage uniform chestnut-rufous; frontal appendage entirely naked; a long, vermiform rictal appendage. (Nicaragua to Panama.).....**Procnias tricarunculata** (p.883)

cc. Throat (together with loral, orbital, and malar regions) naked; no frontal (nor rictal) appendages; whole plumage white. (Southeastern Brazil.)

Procnias nudicollis (extralimital)[c]

bb. Head (except throat) brown; wings black; throat with numerous vermiform appendages. (Guiana, Venezuela, and Trinidad)

Procnias variegata (extralimital)[d]

aa. General color plain olive-green above, the under parts striped with olive-green and yellowish. (Adult females and young males.[e])

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[a] All the known species are given in the key in order to show the remarkably distinct characters of the adult males.

[b] *Ampelis nivea* Boddaert, Tabl. Pl. Enl., 1783, 49 (based on *Cotinga blanc de Cayenne* Daubenton, Pl. Enl., 793, 794).—*P[rocnias] nivea* Gray, Gen. Birds, i, 1846, 280.—*C[hasmorynchus] niveus* Cabanis and Heine, Mus. Hein., ii, 1859, 108; Sclater, Cat. Birds Brit. Mus., xiv, 1888, 403.—[*Ampelis*] *carunculata* Gmelin, Syst. Nat., i, pt. ii, 1788, 841 (based on *Cotinga alba* Brisson, Orn., ii, 356; *Cotinga blanc ou Guirapanga* Buffon, Hist. Nat. Ois., iv, 454, etc.).—*Procnias carunculata* "Hofm[anseg]" Kuhl, Buffon et Daubentoni Fig. Av. Col. Nom. Syst., 1820, 14.—*Casmarhynchus carunculatus* Temminck, Tabl. Méth., 1839, 21.—[*Chasmorhynchus*] *carunculata* Bonaparte, Consp. Av., i, 1850, 178.—*Chasmorhynchus albus* (not *Cotinga alba* Thunberg) Sclater, Ibis, 1866, 407.

[c] *Ampelis nudicollis* Vieillot, Nouv. Dict. d'Hist. Nat., viii, 1817, 164 (Brazil).—*Casmarhynchos nudicollis* Temminck, Pl. Col., livr., 62, 1825, text to pls. 368, 382.—*Procnias nudicollis* Maximilian, Reise. Bras., i, 1823, 52; ii, 158.—*Chasmorhynchus nudicollis* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 404.—*Cotinga alba* Thunberg, Mém. Soc. Moscow, vi, 1823, 177.—*P[rocnias] alba* Gray, Gen. Birds, i, 1846, 280.—[*Chasmorhynchus*] *alba* Bonaparte, Consp. Av., i, 1850, 178.—*Casmarhynchus ecarunculatus* Spix, Av. Bras., ii, 1825, 3, pl. 4 (Rio de Janeiro, Brazil).—*Procnias ventralis* (not of Temminck) Hahn, Vögel aus Asien, etc., Lief. vii, 1820, [63], pl. 2.

[d] [*Ampelis*] *variegata* Gmelin, Syst. Nat., i, pt. ii, 1788, 841 (based on *Cotinga nævia* Brisson, Orn., ii, 354; *Guira-punga* Ray, Aves, 166; *Averano* Buffon, Hist. Nat. Ois., iv, 457; *Variegated Chatterer* Latham, Synop. Birds, ii, pt. i, 99).—*Casmarhynchos variegatus* Temminck, Pl. Col., livr. 9, 1821, text to pl. 51.—*Chasmorhynchus variegatus* Sclater, Cat. Birds Brit. Mus., xiv, 1888, 405.—*Procnias variegata* Léotaud, Ois. Trinidad, 1866, 259.—*Ampelis carnobarba* Cuvier, Règne Anim., iv, 1817, 172, pl. 4, fig. 4.

[e] Owing to an insufficient representation of adult females and young males of the several species (there being no female of *C. niveus* in the National Museum collection) I am not able to give a satisfactory key. The species are very much alike, but probably a good series of specimens would enable one to distinguish them with certainty.

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PROCNIAS TRICARUNCULATA (J. and E. Verreaux).

COSTA RICAN BELL-BIRD.

Adult male.—Head, neck, and chest uniform pure white; rest of plumage plain deep cinnamon-rufous or chestnut-rufous; "bill black, with bluish white tomia; iris dark hazel; wattles black; feet leaden;"[a] length (skins), 275–320 (292); wing, 164–178 (169.7); tail, 101–113 (107.9); bill from nostril, 16.5–23 (18.4); tarsus, 27–30.5 (29.1); middle toe, 23–26.5 (24.7).[b]

Adult female.—Above plain dull olive-green or greenish olive, the feathers margined with brighter, more yellowish, olive-green, the feathers of forehead and sides of head with pale yellow shaft-streaks; under parts deep sulphur or canary yellow, striped with olive-green, most broadly on chest and sides, the abdomen (mostly) and under tail-coverts immaculate yellow; bill dusky; iris brown; legs and feet blackish or "dusky, tinged with olive;"[a] length (skins), 248–269 (259); wing, 145–165.5 (150.4); tail, 96–106.5 (99.9); bill from nostril, 16–18 (16.8); tarsus, 26–29 (27.1); middle toe, 22–25.5 (23.4).[c]

Young male.—Similar in coloration to the adult female. (The throat and chin first become white, but simultaneously or nearly so there are scattered feathers indicating the adult plumage on other parts.)

Highlands of Nicaragua (Matagalpa), Costa Rica (Tucurriqui; Dota; Cervantes; Turrialba; Bonilla; Barranca; Rancho Redondo; San Cristobál; Guapiles; Volcan de Irazú) and Panama (Boca del Toro; 20 miles from City of Panama; Calovevora; Santiago de Veragua; Cordillera del Tolé; Volcan de Chiriqui; Boquete, 4,000 to 6,000 ft.).

Casmorhynchus tricaruncula tus VERREAUX (J. and E.), Rev. et Mag. de Zool., May, 1853, 193 (Boca del Toro, n. side Isthmus Panama).

Chasmorhynchus tricaruncula tus CABANIS, Journ. für Orn., 1861, 253 (Costa Rica; crit.). - SCLATER, Cat. Am. Birds, 1862, 258 (Costa Rica); Cat. Birds Brit.

[a] M. A. Carriker, manuscript.

[b] Fifteen specimens.

[c] Six specimens.

Locality.	Wing.	Tail.	Bill from nostril.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Costa Rica	171.6	109.3	19	29.4	24.7
Five adult males from Panama	165.9	105.2	21.1	28.5	24.6
FEMALES.					
Four adult females from Costa Rica	151.9	100.2	17.1	26.9	23.9
Two adult females from Panama	147.5	99.3	16.3	27.5	22.5

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Mus., xiv, 1888, 405 (Tucurriqui, Costa Rica; Calovevora, Cordillera de Tolé and Volcan de Chiriqui, Panama).—SALVIN, Ibis, 1865, 90–95, pl. 3 (Costa Rica; crit.); Proc. Zool. Soc. Lond., 1867, 150 (Santiago de Veragua and Cordillera de Tolé, Panama); 1870, 200 (Calovevora, Panama).—LAWRENCE, Ann. Lyc. N. Y., ix, 1868, 117 ("San José," Dota, Cervantes, and Turrialba, Costa Rica).—FRANTZIUS, Journ. für Orn., 1869, 310 (Costa Rica).—BOUCARD, Proc. Zool. Soc. Lond., 1878, 66 (Volcan de Irazú, Costa Rica, 6,000 ft.).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 496 (Volcan de Irazú, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, ii, 1891, 142; Ibis, 1892, 327 (Matagalpa, Nicaragua).—BANGS, Auk, xviii, 1901, 365 (Divala, Panama); Proc. New Engl. Zool. Club, iii, 1902, 51 (Boquete, Panama, 4,000 to 6,000 ft.).

[*Casmorhynchus*] *tricarunculatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 59.

[*Chasmorhynchus*] *tricarunculatus* SHARPE, Hand-list, iii, 1901, 178.

[*Casmarhynchus*] *tricarunculatus* GRAY, Hand-list, i, 1869, 375, no. 5687.

Procnias tricarunculatus RIDGWAY, Condor, vii, Nov., 1905, 156, in text (Bonilla, Costa Rica; notes).

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ADDENDA.

(Including corrections.)

Page 22: To South American references pertaining to *Catharus dryas* add:

Catharus dryas HARTERT, Novit. Zool., v, 1898, 479 (Chimbo, n. w. Ecuador).

Page 39: Add to citations of *Hylocichla mustelina*:

HENDERSON, Auk, xxii, 1905, 421 (Yuma, Colorado, 1 spec., May 27, 1905).

Page 44: To citations of *Hylocichla guttata sleveni* add:

BISHOP, Condor, vii, 1905, 143 (Redlands, California, Apr. 16).

Page 46: To synonymy of *Hylocichla guttata sequoiensis* add:

(?) *Hylocichla aonalaschkæ pallasi* (not *Turdus pallasi* Cabanis?) BISHOP, North Am. Fauna, no. 19, 1900, 95 (15 m. below Little Salmon R., Alaska, breeding).

Page 46: To citation of *Turdus aonalaschkæ auduboni* (under *H. guttata sequoiensis*) add:

FISHER, North Am. Fauna, no. 7, 1893, 146 (White Mts. and Sierra Nevada, California).

Page 55: To synonymy of *Hylocichla ustulata ustulata* add:

(?) *Turdus fuscescens* (not of Stephens?) CHERRIE, Auk, viii, 1891, 274 (San José Costa Rica).

Pages 69, 70: Genus *Zeledonia*. According to Pycraft (*Ibis*, Jan., 1905, pp. 1–24) *Zeledonia* has only nine obvious primaries, the tenth (outermost) being very minute and shorter than the primary coverts, and only ten rectrices! This necessitates the removal of the genus from the Turdidæ, and there being no other group into which it can be properly fitted, I propose a new family, Zeledoniidæ, for its accommodation, with the following characters:

Family ZELEDONIIDÆ.

THE WREN-THRUSHES.

(Characters the same as those of the genus, *Zeledonia*, as given on pages 69 and 70, emended by interpolating in line 2 of the diagnosis, after the word "with," "only nine obvious primaries," and substituting "ninth" for "tenth" primary wherever the latter occurs in the text.)

Page 74: To synonymy of *Cichlherminia herminieri herminieri* add:

T[urdus] herminierii BONAPARTE, Consp. Av., i, 1850, 271 (Guadeloupe).

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Page 76: To synonymy of *Cichlherminia sanctæ-luciæ* add:

Cinchlerminia sanctæ-luciæ CLARK (A. H.), Auk, xxii, 1905, 266 (apparently extinct on St. Vincent).

Cinchlerminia sanctæ-luciæ sanctæ-luciæ CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 296 (St. Vincent).

Page 81: Correct citation of *Turdus ardosiaceus* BRYANT, Proc. Bost. Soc. N. H., etc., by substituting xi, 1867, for x, 1866, and adding after Santo Domingo, "crit."

Page 84: In citation of *Turdus plumbeus* BRYANT (first line) for "Bahamas" read New Providence, Bahamas, and to citations of *Mimocichla plumbea* add:

RILEY, Auk, xxii, 1905, 357 (New Providence, Eleuthera, and Cat islands; song).

Page 91: In last line under *a*, for *M. serranus* read *P. serranus;* and under *b*, for *M. rufitorques* read *P. rufitorques.*

Page 105: To citations of *Merula flavirostris* add:

MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 369 (Escuinapa, etc., Sinaloa; song).

Page 109: To synonymy of *Merula tristis tristis* add:

Merula tristis tristis MILLER (W. D.), Bull. Am. Mus. N. H., xxi, Nov. 24, 1905, 369 (Mount Lisiarraga, Sinaloa, breeding).

Page 114: To citations of *Turdus gymnophthalmus* add:

ALLEN, Bull. Am. Mus. N. H., ii, 1889, 78 (Yungas, Bolivia).—DALMAS, Bull. Soc. Zool. France, xiii, 1900, 132 (Tobago; crit.).—HELLMAYR, Novit. Zool., xiii, 1906, 5 (Caparo and Caroni, Trinidad; crit.).

To citations of *Merula gymnophthalma* add:

PHELPS, Auk, xiv, 1897, 363 (Cumanacoa and San Antonio, Venezuela).—CLARK, (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 296 (St. Vincent, Bequia, Cannouan, Union I., Petit Martinique, Carriacou, Ile Ronde, and Grenada, Lesser Antilles; introduced into Barbados; habits; descr. nest and eggs).

Emend citation of *Turdus gymnopsis* BONAPARTE to read as follows:

T[urdus] gymnopsis BONAPARTE, Consp. Av., i, 1850, 272 (Brazil; coll. Leyden Museum).

Page 116: To citations of *Merula nigrirostris* add:

CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 297 (St. Vincent and Grenada; habits; descr. nest and eggs).

Page 121: To citations of *Merula grayii casius* add:

THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 219 (Sabana de Panama).

Page 138: To citations of *Ridgwayia pinicola* add:

MILLER (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 183 (Arroyo del Buey, n. w. Durango, May 28).

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Pages 140, 141, 146: For *Sialia sialis fulva* read *Sialia sialis azurea*. *Muscicapa azurea* Stephens (based on Levaillant, pl. 158), identified by Sundevall as *Sialia sialis*, proves to be not a *Sialia*. Therefore *Sialia azurea* Baird must be taken as the earliest name for this form.

Page 143: In first line of synonymy for *Molacilla* read *Motacilla*.

Page 145: To citations of *Sialia sialis* add:

Goss, Hist. Birds Kansas, 1891, 656 (common in e. and mid., rare summer resident in w. Kansas).

Add to synonymy:

S[ialia] wilsonii HARTLAUB, Syst. Verz., 1844, 32, part.

Page 147: Add to citations of *Sialia sialis azurea*:

MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 369 (Mount Lisiarraga, Sinaloa, May); xxii, 1906, 183 (Las Bocas, Matalotes, Cienega de las Vacas, and Arroyo del Buey, n. w. Durango, Feb. 9 to May 27).—THAYER and BANGS, Proc. Biol. Soc. Wash., xix, 1906 19 (La Chumata, n. w. Sonora).

Page 148: To synonymy of *Sialia sialis guatemalæ* add:

S[ialia] wilsonii HARTLAUB, Syst. Verz., 1844, 32, part (Guatemala).

Page 154: To citations of *Sialia mexicana bairdi* add:

MILLER (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 183 (Arroyo del Buey and Guanacevi, n. w. Durango, breeding; crit.).

Page 158: In seventh line of synonymy for 176 read 178.

Page 159: In twenty-fourth line of synonymy for 1887, 318, read 1889, 320.

Page 166: To citations of *Myadestes townsendi* add:

DWIGHT, Auk, xxiii, 1906, 105 (Kings Lake, Long Island, 1 spec., Nov. 25, 1905).—MILLER, (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 183 (Cienega de las Vacas, n. w. Durango, Mar. 31).

To citations of *Myadestes townsendii* add:

Goss, Hist. Birds Kansas, 1891, 641 (w. Kansas, occasional in fall and winter).

Page 178: To synonymy of *Myadestes genibarbis cherriei* add:

Myiadestes montanus (not of Cory, 1881) CORY, Auk, xii, 1895, 297, in text (Santo Domingo).

To synonymy of *Myadestes armillatus* add:

M[yiadestes] armillatus CABANIS, Wiegmann's Archiv. für Naturg., 1847, i, 208.

Page 179: To citations of *Myadestes sibilans* add:

CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 298 (St. Vincent; habits).

Page 192: Interpolate before first line:

T[oxostoma] longirostre CABANIS, in Wiegmann's Archiv. für Naturg., 1847, i, 207.

Page 197: Add to citations of *Toxostoma cinereum mearnsi*:

KAEDING, Condor, vii, 1905, 137 (San Juanico Bay, Lower California).

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Page 199: Add to citations of *Toxostoma bendirei*:

MILLER (W. D.), Bull. Am. Mus. N. H., xxi, 1905, 368 (Escuinapa, Sinaloa, Feb.).

Page 201: Add to synonymy of *Toxostoma curvirostre*:

(?) *T[oxostoma] vetula* BONAPARTE, Consp. Av., i, 1850, 277.

Page 202: Add to synonymy of *Toxostoma curvirostre occidentale*:

Toxostoma curvirostre occidentale MILLER (W. D.), Bull. Am. Mus. N. H., xxi, Nov. 24, 1905, 368 (Escuinapa, etc., Sinaloa).

Page 203: To citations of *Toxostoma curvirostre palmeri* add:

THAYER and BANGS, Proc. Biol. Soc. Wash., xix, 1906, 19 (Opodepe, n.-centr. Sonora; crit.)

Page 203: The following new form of *Toxostoma redivivum* has recently been described from the vicinity of San Quintin Bay, Lower California:

TOXOSTOMA REDIVIVUM HELVOLUM Thayer and Bangs.

SAN QUENTIN THRASHER.

"*Type*, from Rosario, Lower California (latitude 30°), adult ♀, no. 6000, coll. of John E. Thayer, Lancaster, Massachusetts, collected Nov. 19, 1906, by W. W. Brown, Jr.

"*Characters.*—Similar in size and proportions to true *T. rediviva*; colors all much paler than in true *T. rediviva* or *T. rediviva pasadenensis*—back much grayer, less brownish; pectoral collar much paler, less strongly marked; rest of under parts much paler, the belly varying from almost buff in some individuals to dull ochraceous buff, the sides and flanks much less brownish."

I have not seen an example of this form.

Toxostoma rediviva helvola THAYER and BANGS, Proc. New Engl. Zool. Club, iv, Apr. 30, 1907, 17 (Rosario, Lower California, lat. 30°; coll. John E. Thayer).

Page 204: Add to synonymy of *Toxostoma redivivum*:

[*Toxostoma*] *rediviva* BONAPARTE, Consp. Av., i, 1850, 277.

Page 205: To citations of *Harporhynchus redivivus* add:

BRYANT (W. E.), Proc. Calif. Ac. Sci., ser. 2, 1889, 314 (El Rosario, San Pedro Martir Mts. at 7,500 ft., Valle Trinidad, and San Quentin, Lower California).

Page 207: For *Toxostoma lecontei arenicola* read *Toxostoma lecontei arenicolum.*

Page 207: To synonymy of *Toxostoma lecontei arenicola* add:

Toxostoma lecontei arenicolum KAEDING, Condor, vii, 1905, 137 (San Juanico Bay and Playa Maria Bay, Lower California).

Page 208: To citations of *Toxostoma crissale* add:

GRINNELL (J.), Condor, vi, 1904, 44 (Palm Springs, Riverside Co., California, Dec.)

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Page 209: To citations of *Harporhynchus crissalis* add:

BRYANT (W. E.), Proc. Calif. Ac. Sci., ser. 2, 1889, 314 (10 or 12 m. w. of San Pedro Martir Mts., Lower California).

Page 212: Add to synonymy of *Melanotis cærulescens*:

T[oxostoma] caerulescens HARTLAUB, Syst. Verz. Mus. Brem., 1844, 43.

Melanotis cærulescens cærulescens MILLER (W. De W.), Bull. Am. Mus. N. H., xxi, Nov. 24, 1905, 368 (Escuinapa, etc., Sinaloa).

Page 221: Add to synonymy of *Galeoscoptes carolinensis*:

T[urdus] cinereus VOIGT, Thierreich, i, 1831, 483 (new name for *Turdus lividus* Lichtenstein).

Page 231: To synonymy of *Mimus polyglottos elegans* add:

Mimus polyglottus (var. *bahamensis*) (not *Mimus bahamensis* Bryant, 1859) BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 68 (Inagua).

Page 233: To citations of *Mimus polyglottus orpheus* add:

CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 299 (Barbados; introduced).

To synonymy of same subspecies add:

Mimus polyglottus. Var. *portoricensis* BRYANT, Proc. Bost. Soc. N. H., x, 1866, 250 (Porto Rico).

Page 234: To synonymy of *Mimus polyglottos dominicus* add:

Mimus polyglottus (var. *dominicus*) BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 93 (Port au Prince, Haiti).

Page 236: To citations of *Mimus gilvus* add:

CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 299 (St. Vincent; Grenada; introduced into Barbados; descr; nest and eggs).

Page 242: To synonymy of *Mimus gundlachii gundlachii* add:

Mimus gundlachi bahamensis (not *Mimus bahamensis* Bryant) RILEY, Auk, xxii, 1905, 356, part (Rum Cay, Bahamas).

Page 244: To synonymy of *Mimus gundlachii bahamensis* add:

Mimus gundlachi bahamensis RILEY, Auk, xxii, Oct., 1905, 356, part (Andros, Eleuthera, and Cat islands, Bahamas; song; descr. nest and eggs).

Page 254: For *Nesomimus hulli* (Rothschild) read *Nesomimus hulli* Rothschild.

Page 260: In third line of synonomy for 89 read 87.

Page 264: To citations of *Allenia albiventris* add:

CLARK (A. H.), Auk, xxii, 1905, 266 (extinct on Union I., Carriacou, and Grenadines); Proc. Bost. Soc. N. H., xxxii, 1905, 299 (St. Vincent; Grenada; habits).

Page 267: To citations of *Margarops fuscatus* add:

RILEY, Auk, xxii, 1905, 357 (Rum Cay, Watlings I. and Long I., Bahamas; habits).

Page 269: In key to the species of *Ramphocinclus* for *bachyurus* read *brachyurus*.

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Page 270: To citations of [*Ramphocinclus*] *brachyurus* add:

BONAPARTE, Consp. Av., i, 1850, 223 ("Dominica").

Page 274: To synonymy of *Cinclocerthia ruficauda ruficauda* add:

[*Cinclocerthia*] *ruficaudus* BONAPARTE, Consp. Av., i, 1850, 215 ("Jamaica").

To citations of *Cinclocerthia ruficauda tenebrosa* add:

CLARK (A. H.), Auk, xxii, 1905, 266 (probably extinct); Proc. Bost. Soc. N. H., xxxii, 1905, 298.

Page 275: To synonymy of *Cinclocerthia ruficauda tremula* add:

[*Ramphocinclus*] *variegatus* BONAPARTE, Consp. Av., i, 1850, 223, part (cites *Turdus scolopaceus* Lichtenstein,[a] *Thryothorus longirostris* Vieillot,[b] *Opetiorhynchus turdinus*? Wied,[c] *Ramphocinclus tremulus* Lafresnaye, *Herminierus guadelupensis* Lesson and *H. infaustus* Lesson).

Page 286: For [*Spermestes*] *cucullata* BONAPARTE, etc., read *S*[*permestes*] *cucullata*.

Page 288: To synonymy of *Estrilda melpoda* add:

Estrelda astrild (not *Loxia astrild* Linnæus) CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 281 (Barbados, Lesser Antilles).

Page 295: To synonymy of *Alauda arvensis* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 327, pl. 5, fig. 23.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 265.

Page 295: Genus *Otocoris*. Add the following recently described subspecies:

OTOCORIS ALPESTRIS ENERTERA Oberholser.

SANTA ROSALIA HORNED LARK.

"*Chars. subsp.*—Similar to *Otocoris alpestris ammophila*, but smaller, the upper parts paler and more grayish, the cinnamomeous of nape, upper tail-coverts, and bend of wing more pinkish.

"*Measurements* (*10 males*).—Wing, 91.5–99 (average, 96); tail, 60.5–64.5 (62.9); exposed culmen, 9.5–11 (10.5); tarsus, 18–21 (20.1); middle toe, 9.5–11.5 (10.6). (*13 females.*)—Wing, 89–96 (91.4); tail, 55–60.5 (57.8); exposed culmen, 9.5–11 (10.2); tarsus, 19–21.5 (20); middle toe, 9.5–11.5 (10.4) mm.

"*Geographical distribution.*—Central Lower California, from about 24 degrees to 29 degrees north latitude.

"*Description.*—Type, adult male, No. 196,076, U. S. N. M., Biological Survey Collection; Llano de Yrais (near Magdalena Bay), Lower California, December 13, 1905; E. W. Nelson and E. A. Goldman. Back, scapulars, and rump brownish gray, all the feathers with fuscous centers, more or less extensive, and darkest on the

[a] = *Heleodytes variegatus* (Gmelin).
[b] = *Thryophilus longirostris* (Vieillot).
[c] = *Heleodytes variegatus* (Gmelin)?

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rump; wings fuscous, the quills, greater coverts, and primary coverts edged with brownish gray, the outer web of outermost primary nearly all white; lesser wing-coverts and upper tail-coverts cinnamomeous; tail black, the two middle feathers fuscous, margined with brownish gray, the exterior web of outermost pair of rectrices edged with white; occiput, cervix, and sides of neck pinkish cinnamomeous; crown, "horns," lores, cheeks, and jugular crescent black; auriculars yellowish white washed with grayish; forehead, superciliary stripe, and postocular streak yellowish white; chin and throat pale primrose yellow; flanks, thighs, and sides of breast and of body light brownish cinnamon; rest of lower parts, including lining of wings, white.

"This new race is in color very similar to *Otocoris alpestris leucolaema*, but is more grayish above, at least when in good plumage; and has the eyebrow usually more yellowish; furthermore, the greatly inferior size of *Otocoris a. enertera* distinguishes it at once. From *Otocoris alpestris actia*, whose range it approaches most closely, it differs very much more than from either *Otocoris a. ammophila* or *O. a. leucolaema*, being strikingly paler and more grayish throughout, as well as somewhat smaller.

"The type specimen above described still retains some of the brownish gray edgings of crown, jugulum, and cervix, but otherwise represents the perfect breeding plumage. When badly worn, *O. a. enertera* looks more like *O. a. ammophila* than when in fresh condition, though it is still more grayish and pinkish above, and of course smaller. *Otocoris alpestis enertera* appears to be non-migratory; and its range, so far as known, extends in Lower California from Santa Rosalia Bay to the neighborhood of Magdalena Bay."

Otocoris alpestris enertera OBERHOLSER, Proc. Biol. Soc. Wash., xx, Mar. 27, 1907, 41 (Llano de Yrais, near Magdalena Bay, Lower California; coll. U. S. Nat. Mus.)

Page 335: Family Tyrannidæ. Since that portion of the present volume covering the Tyrannidæ was printed several important papers[a] by Count von Berlepsch, bearing exclusively or in part on this group of birds, have been published in the Proceedings of the Fourth International Ornithological Congress (date of publication, February, 1907), citations from which are here given in regular order.

[a] The more important of these are the following:

(1) On the genus Elaenia Sundev. By Hans Graf von Berlepsch. Proceedings Fourth International Ornithological Congress, 1905 (published February, 1907), pp. 372–448. (An elaborate and most valuable paper, which the author of the present work is very sorry not to have seen earlier. Count von Berlepsch includes in *Elaenia* the genera *Myiopagis* and *Elainopsis*.)

(2) Studien über Tyranniden. Von Hans Graf von Berlepsch. Proceedings Fourth International Ornithological Congress, 1905 (published February, 1907), pp. 463–493. (A series of interesting and important critical notes on more or less obscure or little understood forms.)

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Page 335: In last line, for SCLATER read Sclater.

Page 338: To list of genera not seen by the author of the present work add:

Idioptilon Berlepsch (Proc. Fourth Int. Orn. Cong., Feb., 1907, 356; type *I. rothschildi* Berlepsch), and *Xanthomyias* Berlepsch (Proc. Fourth Int. Orn. Cong., Feb., 1907, 490; type, *Muscicapa virescens* Temminck).

Page 338, footnote *a*: For general read genera, and for *Lipangus* read *Lipaugus*.

Page 339, footnote *a*: The genus *Lawrencia*, which has been found to be a member of the Oscines, instead of belonging to the Tyrannidæ, having been omitted from its proper place in, or at least near, the Vireonidæ (treated of in Part III, pp. 128–232, of the present work), the characters of the genus and single known species are given below:

Genus LAWRENCIA Ridgway.

Lawrencia[a] RIDGWAY, Auk, iii, no. 3, July, 1886, 382. (Type, *Empidonax nanus* Lawrence.)

Resembling the smaller and more slender species of the genus *Vireo* Vieillot (especially *V. pusillus* Coues), but bill much broader and more depressed basally, its width at frontal antiæ equal to distance from nostril to tip of maxilla and more than twice as great as its depth at same point, and rictal bristles stronger.

Bill about half as long as head, broadly triangular in vertical profile, its width at frontal antiæ more than twice its depth at same point, and equal to distance from nostril to tip of maxilla; culmen nearly straight to near tip, where slightly decurved, the tip of maxilla very slightly uncinate; gonys faintly convex, much longer than mandibular rami; maxillary tomium nearly straight, distinctly notched subterminally. Nostril exposed, rather large, longitudinally oval, with broad membrane above for whole length and below for basal half. Rictal bristles (two or three) strongly developed, the bristly tips to feathers of chin and frontal antiæ distinct, the latter extending much beyond nostril. Wing moderate, much rounded, the primaries exceeding secondaries by not more than distance from nostril to tip of maxilla; seventh and sixth primaries longest, the fifth and eighth successively a little shorter, the ninth shorter than first, the tenth (outermost) a little more than half as long as ninth. Tail as long as wing from bend to end of secondaries, slightly double-rounded, the rectrices rather narrow. Tarsus rather long and slender (about twice as long as exposed culmen and one-third as long as wing); middle toe, with claw, much shorter than tarsus, its basal phalanx and nearly half of second phalanx united to outer toe, the former almost wholly united to inner toe;

[a] In honor of Mr. George Newbold Lawrence.

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outer toe, without claw, reaching to slightly beyond middle of subterminal phalanx of middle toe, the inner toe slightly but decidedly shorter; hallux shorter than outer toe but much stouter, its claw decidedly shorter than the digit, all the claws strongly curved, acute, rather stout.

Coloration.—Plain olive above, becoming grayer on pileum, the wings with two whitish bands; beneath pale yellowish passing into dull whitish on throat.

Nidification.—(Unknown.)

Range.—Island of Haiti (Santo Domingo), Greater Antilles. (Monotypic.)

LAWRENCIA NANA (Lawrence).

FLAT-BILLED VIREO.

Adult.—Pileum and hindneck plain deep smoke gray; back, scapulars, rump, and lesser wing-coverts plain dull grayish olive-green or greenish olive; wings (except lesser coverts) and tail dark hair brown with paler edgings, the middle wing-coverts broadly, the greater coverts more narrowly, tipped with dull white; a dull whitish loral spot; suborbital region pale grayish olive, tinged with yellowish, passing into a more decided gray on terminal and upper portions of auricular region; chin and throat dull yellowish white, very indistinctly barred with pale grayish; rest of under parts very pale primrose yellow, tinged with pale olive on sides and flanks; under wing-coverts deeper primrose yellow; bill brownish (in dried skin), the mandible slightly paler; legs and feet horn color (in dried skin); length (skin), 112; wing, 55; tail, 50; exposed culmen, 9.5; tarsus, 18.5; middle toe, without claw, 10.[a]

Island of Haiti (Santo Domingo[b]), Greater Antilles.

Empidonax nanus LAWRENCE, Ibis, July, 1875, 386 (Santo Domingo; coll. U. S. Nat. Mus.).—CORY Birds Haiti and San Dom., 1885, 82; Auk, iii, 1886, 234.

[*Empidonax*] *nanus* CORY, List Birds West Ind., 1885, 17.

Lawrencia nana RIDGWAY, Ibis, 1886, 461.—SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 233.

Lawrencia nanus CORY, Birds West Ind., 1889, 120; Cat. West Ind. Birds, 1892, 14, 109, 131.

Page 340, fourth line: For *Lipangus* read *Lipaugus*.

Page 340, footnote *b*: *Pogonotriccus plumbeiceps* Lawrence has recently been made the type of a new genus, *Oreomyias* Berlepsch (Proc. Fourth Int. Orn. Congr., Feb., 1907, 491).

Page 347: For *Myiochanes* (p. 508) read *Myiochanes* (p. 509).

Page 350, footnote: Add to citations of *C[opurus] colonus*:

Hartlaub, Syst. Verz., 1844, 50 (Brazil).

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[a] One specimen (the type), sex unknown. [b] The precise locality is not known.

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Add to synonymy:

Copurus funebris Hellmayr, Bull. Brit. Orn. Club, xiv, no. cv, Mar. 26, 1904, 61 (Piquete, São Paulo, s. Brazil; crit.).

Page 353, footnote: Add to synonymy of *Onychorhynchus coronatus*:

Platyrhynchos regius Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 12.—*M[egalophus] regius* Hartlaub, Syst. Verz., 1844, 51 (Brazil).

Page 363, footnote *a*: In sixth line for 1824 read 1825, and in eighth line for 1854 read 1856.

Page 371: In English name of species for Zeledons' read Zeledon's.

Page 375: To citations of *Colopterus pilaris* add:

BANGS, Auk, xviii, 1901, 361 (David, Panama).

Page 377, footnote: To citations of *Orchilus ecaudatus* add:

Sclater and Salvin, Proc. Zool. Soc. Lond., 1868, 628, 631 (San Esteban, Venezuela).

Page 382, footnote *b*: To synonymy of *Platytriccus mystaceus* add:

T[odus] cancroma Lichtenstein, Verz. Doubl., 1823, 51.—*T[atyrhynchus] cancromus* Hartlaub, Syst. Verz., 1844, 51 (Brazil).

Page 385: To citations of *Platyrhynchus albogularis* add, after "HARTERT, Novit. Zool.": v, 1898, 486 (Chimbo, n. w. Ecuador, 1,000 ft.).

Page 387, footnote *a*: To synonymy of *Craspedoprion olivaceus* add:

Craspedoprion olivaceus Hellmayr, Novit. Zool., xiii, 1906, 361 (Pará, Brazil; crit.).

Page 388: To citations of *Rhynchocyclus aequinoctialis* add:

HARTERT, Novit. Zool., v, 1898, 487 (Cachavi, n. w. Ecuador; crit.).—BANGS, Auk, xviii, 1901, 363 (Divala, Panama).

Page 390: Wherever P. occurs as the generic initial read R.

Page 391, footnote *a*: To synonymy of *Rhynchocyclus flaviventris* add:

Rhynchocyclus flaviventris flaviventris Hellmayr, Novit. Zool., xiii, 1906, 23 (Caparo, Valencia, and Seelet, Trinidad; crit.).

Brazilian specimens of this species have been separated as *Rhynchocyclus flaviventris borbæ* by Hellmayr in Verh. k. k. zool.-bot. Ges. Wien, May 22, 1903, 208 (Borba, Brazil; coll. Vienna Mus.).

Page 391, footnote *b*: According to Count von Berlepsch (Proc. Fourth Int. Orn. Congr., 1907, 482), *Rhynchocyclus scotius* Oberholser is the same as *R. assimilis* Pelzeln (*R. sulphurescens assimilis* Berlepsch). I had also, independently, concluded that the form named *Rhynchocyclus assimilis* in the "key" could not be that form and had described it as *Rhynchocyclus klagesi* (Proc. Biol. Soc. Wash., xix, Sept. 6, 1906, 115; Maripa, Venezuela; coll. Am. Mus. N. H.), but had forgotten the circumstance. Therefore *Rhynchocyclus scotius* in

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the "key" should read *Rhynchocyclus assimilis*, and *Rhynchocyclus assimilis*? should read *Rhynchocyclus klagesi*.

Page 391, footnote *c*: To synonymy of *Rhynchocyclus sulphurescens* add:

Rhynchocyclus sulphurescens sulphurescens Hellmayr, Novit. Zool., xiii, 1906, 23 (Caparo and Tacarigua, Trinidad; crit.); Cherrie, Bull. Brookl. Inst. Arts and Sciences, June, 1906, (189) (Aripo, Trinidad).

Page 400, footnote *d*: Add to synonymy of *Myiopagis placens pallens:*

E[laenia] v[iridicata] pallens Berlepsch, Proc. Fourth Int. Orn. Cong., Feb., 1907, 429, in text.

Page 401: *Myiopagis placens placens*. According to Count von Berlepsch the earliest name for this species is *Sylvia viridicata* Vieillot (Nouv. Dict. d'Hist. Nat., xi, 1817, 171, based on *Contramaestre pardo verdoso corona amarilla* Azara, Apunt., ii, 57, no. 156), the South American birds of the species being segregated by him as *Elaenia viridicata*, as had already been done by Salvadori (Boll. Mus. Zool., etc., Torino, xii, 1897, 15). The three forms which I have recognized (following Mr. Bangs) as *Myiopagis placens placens*, *M. p. accola*, and *M. p. pallens*, respectively, are combined by Count von Berlepsch under the name *Elaenia viridicata placens* (Proc. Fourth Int. Orn. Congr., Feb., 1907, 427). A second South American form, occurring in eastern Brazil and thence to Venezuela, has been separated by Count von Berlepsch as *Elaenia viridicata delicata* (Proc. Fourth Int. Orn. Cong., Feb., 1907, 430; Bahia, Brazil; coll. Count von Berlepsch).

Page 403: To synonymy of *Myiopagis placens jaliscensis* add:

Elaenia viridicata jaliscensis Berlepsch, Proc. Fourth Int. Orn. Congr., Feb., 1907, 429 (monogr.).

Page 403: To synonymy of *Myiopagis placens minima* add:

Elaenia viridicata minima Berlepsch, Proc. Fourth Int. Orn. Congr., Feb., 1907, 429 (monogr.).

Page 404: To synonymy of *Myiopagis placens accola* add:

Elænia placens Bangs, Auk, xviii, 1901, 30 (San Miguel I., Bay of Panama).

Page 405: To synonymy of *Myiopagis cotta* add:

Elaenia cotta Berlepsch, Proc. Fourth Int. Orn. Congr., 1907, 424 (monogr.).

Page 406, footnote *b*: *Pogonotriccus plumbeiceps* has more recently been made the type of a new genus, *Oreomyias*, by Count von Berlepsch (Proc. Fourth Int. Orn. Congr., Feb., 1907, 491), the species being called *Oreomyias plumbeiceps* (Berlepsch, Proc. Fourth Int. Orn. Congr., Feb., 1907, 486, 491).

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Page 413, footnote *b*: To synonymy of *Camptostoma pusillum pusillum* add:

Ornithion pusillum pusillum Hellmayr, Novit. Zool., xiii, 1906, 361 (Prata, Brazil; crit.).

Page 413, footnote *c*: To synonymy of *Camptostoma pusillum napæum* add:

Ornithion pusillum juruanum Ihering, Rev. Mus. Paulista, vi, 1904, 434 (Rio Jurua, Province São Paulo, s. Brazil; coll. Mus. São Paulo). (See Berlepsch, Proc. Fourth Int. Orn. Congr., 1907, 492.)

Page 414, footnote: For *Camptostomum* read *Camptostoma*.

Page 414, footnote: Citation of *Ornithion pusillum juruanum* to be transferred to synonymy of *Camptostoma pusillum napæum* on p. 413.

Page 416: To citations of *Ornithion imberbe* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 325.—BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 265.

To citations of *Ornithion imberbe ridgwayi* add: BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 325, and add to synonymy:

O[rnithion] i[mberbe] ridgwayi BAILEY (Florence M.), Handb. Birds W. U. S., 1902, 265.

Page 418: To citations of *Ornithion pusillum* add:

BANGS, Auk, xviii, 1901, 28 (San Miguel I., Bay of Panama; crit.), 362 (Divala, Panama).

To synonymy add:

O[rnithion] p[usillum] subflavum HELLMAYR, Novit. Zool., xiii, 1906, 23 (Costa Rica; crit.).

Page 423: To citations of *Sublegatus glaber* add:

PHELPS, Auk, xiv, 1897, 365 (Cumaná, Venezuela).

To citations of *Sublegatus arenarum* add:

BANGS, Auk, xviii, 1901, 363 (David, Panama).—CLARK (A. H.), Auk, xix, 1902, 264 (Margarita I., Venezuela; crit.).

To synonymy add:

Sublegatus fasciatus glaber HELLMAYR, Novit. Zool., xiii, 1906, 56 (Monos I., Trinidad).

Page 425, footnote *a*: To synonymy of *Elænia martinica flavogastra* add:

Elaenia flavogaster Berlepsch, Proc. Fourth Int. Orn. Congr., 1907, 384 (monogr.).—*Platyrhynchus paganus* Spix, Av. Bras., ii, 1825, 13, pl. 16, fig. 1 (Rio Janeiro)—[*Elainia pagana.*] Subsp. *pagana* Allen, Bull. Am. Mus. N. H., ii, Oct., 1889, 196 (synonymy).—*Elainea pagana pagana* Hellmayr, Novit. Zool., xiii, 1906, 23 (Seelet and Caparo, Trinidad; crit.); Cherrie, Sci. Bull. Brookl. Inst. Arts and Sciences, i, 1906, 189 (heights of Aripo, Trinidad).

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Page 425, footnote *b*: For *stolzmannii* read *stolzmanni*.

Page 426, footnote *a*: *Elænia browni* Bangs is referred by Count von Berlepsch (Proc. Fourth Int. Orn. Congr., Feb., 1907, 416) to *E. frantzii pudica*. Whether this diposition of *E. browni* is correct or not, there can be no question that specimens (co-types) in the U. S. National Museum are specifically quite distinct from *E. frantzii*. If, therefore, *E. browni* Bangs is identical with *E. pudica* Sclater the latter should be called *Elænia pudica* and not *Elænia frantzii pudica*.

Page 427, last paragraph of footnote: With more ample or satisfactory material than that examined by me, Count von Berlepsch has been able to differentiate several forms among the West Indian *Elæniæ* included in the present work under the general heading *Elænia martinica martinica*, as follows:

(*1*) *Elænia martinica* [*martinica*]. Islands of Marie Galante, Guadeloupe, Dominica, Martinique, and Santa Lucia. (Doubtfully, St. Christopher, Antigua, Montserrat, and Barbados.)

(2) *Elænia martinica riisii* (Sclater). Islands of St. Thomas, St. Bartholomew, and Curaçao. (Doubtfully, Virgin Gorda, Anegada, Anguilla, St. Eustatius, and Saba.). Differing from *E. m. martinica* in being smaller and color of upper parts paler and more grayish olive.

(3) *Elænia martinica caymanensis* Berlepsch. Islands of Grand Cayman and Little Cayman. Similar in coloration to *E. m. riisii* but larger.

(4) *Elænia martinica cinerescens* (Ridgway). Islands of Old Providence and St. Andrews, Caribbean Sea. Similar to *E. m. martinica* but larger; bill, wings, and tail longer; chest and breast more grayish olive and flammulated with yellow.

(5) *Elænia martinica complexa* Berlepsch. Differing from *E. m. martinica* in having the abdomen and under tail-coverts pale sulphur yellow, upper parts earthy brown and breast washed with brown. (The brown color is really a discoloration, as suggested by Count von Berlepsch, but due to the effect of the peculiar preservative used and not to the "influence of moisture." All specimens collected by C. J. Maynard during the trip when these Elænias were secured are similarly discolored, and are wholly unfit for scientific comparison.)

(6) *Elænia martinica remota* Berlepsch. Differing from *E. m. martinica* in having the rump conspicuously suffused with brown, chest and upper breast darker gray, contrasting more strongly with the white of throat, and bill broader. This form is also credited to Mujeres Island, and doubtfully to Holbox and Meco islands (Yucatan), and Half Moon Cay, British Honduras.

Pages 428, 429: Add to synonymy of *Elænia martinica martinica:*

Elaenia martinica BERLEPSCH, Proc Fourth Int. Orn. Congr., 1907, 391 (mongr.; Marie Galante; Guadeloupe; Dominica; Martinique; Santa Lucia; St. Kitts?; Antigua?; Montserrat?; Barbados?).

Elaenia martinica riisii BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 393 (monogr.; St. Thomas; St. Bartholomew; Virgin Gorda?; Anegada?; Anguilla?; St. Eustatius?; Saba?; Curaçao).

Musc[icapa] albicapilla VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 451 (new name for *M. martinica* Linnæus).

Muscicapa albicapilla VIEILLOT, Ois. Am. Sept., i, 1807, 66, pl. 37.

Elænea martinica CORY, Auk, vii, 1890, 374 (Anegada), 375 (Virgin Gorda); viii, 1891, 46 (Anguilla), 47 (Antigua), 48 (St. Christopher), 49 (Guadeloupe).

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Elainea martinica CORY, Auk, vi, 1889, 31 (Little Cayman; Cayman Brac).—WELLS, Auk, xix, 1902, 346 (Carriacou; notes; descr. nest and eggs).

Elaenea martinica martinica CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 280 (St. Vincent and Grenadines; habits).

Elaenea martinica barbadensis CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 280 (Barbados; habits).

Elaenia albivertex BERLEPSCH, Proc. Fourth Int. Orn. Cong., 1907, 400 (monogr.).

Elainea martinica? CORY, Auk, iii, 1886, 502 (Grand Cayman).

(?) *Elainea martinica* CORY, Auk, iv, 1887, 181 (St. Andrews I.).

Elaenia martinica caymanensis BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 394 (Island of Grand Cayman, south of Cuba; coll. Count von Berlepsch).

Elaenia martinica cinerescens BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 395 (monogr.; Old Providence; St. Andrews).

Elaenia martinica complexa BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 395 (Island of Cayman Brac, south of Cuba; coll. Count von Berlepsch).

Elaenia martinica remota BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 396 (Cozumel I., Yucatan; coll. Count von Berlepsch).

Page 431: Add to synonymy of *Elænia martinica subpagana*:

Elaenia flavogaster subpagana BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 388 (monogr.; Mexico to Panama).

Page 432: Add to "Lesser Antillean references" (under *Elænia martinica subpagana*):

Elaenea martinica flavogastra (not *Pipra flavogaster* Thunberg) CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 279 (Grenada; Bequia; Mustique; St. Vincent; crit.; habits; descr. nest and eggs).

Elaenia flavogaster BERLEPSCH, Proc. Fourth Int. Orn. Congr., 1907, 384, part (St. Vincent; Carriacou; Grenada).

Page 433: Add to synonymy of *Elænia chiriquensis chiriquensis* (according to Count von Berlepsch, Proc. Fourth Int. Orn. Congr., 1907, 400, 401):

Elainea albivertex PELZELN, Orn. Bras., ii. Abth., 1869, 177 (Ypanema, Brazil; coll. Vienna Mus.).

(?) *Elainea gracilis* TACZANOWSKI, Orn. du Pérou, ii, 1884, 271 (Chirimoto, n. Peru).

Etainea albiceps (not *Muscipeta albiceps* D'Orbigny and Lafresnaye) SCLATER, Cat. Birds Brit. Mus., xiv, 1888, 141, part (Goyaz, Brazil).

Elaenea pagana albiceps ALLEN, Bull. Am. Mus. N. H., iv, 1892, 335 (Chapada, Mattogrosso, Brazil).[a]

Page 434: Add to synonymy of *Elænia chiriquensis sordidata:*

Elaenia albivertex (not of Pelzeln) BERLEPSCH, Proc. Fourth Int. Orn. Congr., 1907, 400, part (San Miguel I.).

Page 436: Add to synonymy of *Elænia frantzii frantzii:*

Elaenia frantzii BERLEPSCH, Proc. Fourth Int. Orn. Congr., 1907, 416 (monogr.; Guatemala to Chiriqui).

[a] The question mark preceding this reference in Count von Berlepsch's citation should be removed.

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Page 437: Add to synonymy of *Elænia cherriei:*

Elaenia fallax cherriei BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 410 (monogr.).

Page 441: For *Muscicapa citrina* read *M[uscipeta] citrina.*

Page 442: To synonymy of *Legatus albicollis* add:

Legatus albicollis variegatus BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 474 (monogr.).

Page 444, footnote *a*: To synonymy of *Myiozetetes similis* add:

T[yrannula] similis Hartlaub, Syst. Verz., 1844, 49, part (Brazil).

Pages 445, 446: To synonymy of *Myiozetetes cayanensis* add:

M[uscicapa] cayennensis MAXIMILIAN, Beitr. Naturg. Bras., iii, 1830, 846 (Rio Doçe, Rio Mucuri, Rio Belmonte, and s. of Cabo Frio, Brazil).

Myiozetetes cayanensis cayanensis HELLMAYR, Novit. Zool., xiii, 1906, 361 (Pará, Brazil; crit.).

Page 448: To citations of *Myiozetetes similis superciliosus* add:

AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xix, 1902, 320; and following—

M[yiozetetes] similis superciliosus BERLEPSCH, Proc. Fourth Int. Orn. Congr., 1907, 476.

Page 448: To citations of *Myiozetetes texensis* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 254, pl. 1, fig. 22 (egg).

After citation of *Tyrannula cayennensis* add:

Tyrannula cayanensis BAIRD, in Stansbury's Rep. Gt. Salt Lake, 1852, 329 ("Texas").

Page 450: Add to synonymy of *Myiozetetes texensis columbianus:*

M[yiozetetes] similis colombianus BERLEPSCH, Proc. Fourth Int. Orn. Congr., 1907. 476.

Page 450: To citations of *Myiozetetes texensis* add:

PHELPS, Auk, xiv, 1897, 365 (Cumanacoa, Venezuela).

Page 454, footnote *a*: For *Elainea oleaginea* Hartlaub, Verz. Mus. Brem., 1844, 52, read: *E[lania] oleaginea* Hartlaub, Verz. Mus. Brem., 1844, 53 (Brazil).

Add to synonymy of *Pipromorpha oleaginea oleaginea*:

[*Mionectes*] *oleagina* Bonaparte, Consp. Av., i, 1850, 187.—*Myionectes oleaginus* Dalmas, Bull. Soc. Zool. France, xiii, 1900, 138 (Tobago).

Page 459: To synonymy of Genus *Mionectes* add:

Myionectes (emendation) SUNDEVALL, Met. Nat. Av. Disp. Tent., i, 1872, 59.

Page 467: To citations of *L[eptopogon] superciliaris* add:

CABANIS, Wiegmann's Archiv. für Naturg., i, 1847, 251 (Peru).

To citations of *Leptopogon superciliaris* add:

PHELPS, Auk, xiv, 1897, 365 (Caripe, Venezuela).

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Page 469, footnote *d*: According to Hellmayr (Novit. Zool., xiii, 1906, 323, *Capsiempis caudata* belongs to the genus *Serpophaga*, and should be called *Serpophaga caudata*. A synonym of this name is *Serpophaga orenocensis* Berlepsch and Hartert, Novit. Zool., ix, Apr., 1902, 40 (Altagracia, Venezuela; coll. Count von Berlepsch).

Page 469, footnote *e*: According to Count von Berlepsch (Proc. Fourth Int. Orn. Congr., 1907, 487), *Capsiempis orbitalis* Cabanis is the same as *Tyranniscus leucogonys* Sclater and Salvin = *Achrocordopus leucogonys* Berlepsch.

A new species of this genus has been described as *Capsiempis leucophrys* by Count von Berlepsch, in Proc. Fourth Int. Orn. Congr., Feb., 1907, 360 (Bogotá, Colombia; coll. Count von Berlepsch). It is said to differ from *C. flaveola* in having the superciliary region, orbital ring, nasal plumes, and upper throat white instead of yellow.

Page 471: For *Platyrhynchus flaviventris* SPIX, etc., read: *Platyrhynchus flaviventer* SPIX, Av. Bras., ii, 1825, 12, pl. 15, fig. 1 (Province of Rio de Janeiro, Brazil).

Add to synonymy:

Capsiempis flaveola semiflava BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 487.

Page 473, footnote *a*: To synonymy of *Pyrocephalus rubinus rubinus* add:

Platyrhynchos coronatus Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 17.

Page 475, footnote *a*: Add to synonymy of *Pyrocephalus obscurus:*

M[yiarchus] obscurus Cabanis, Wiegmann's Archiv. für Naturg., i, 1847, 248.

Page 478: For *Pyrocephalus nanus* (Gould) read *Pyrocephalus nanus* Gould.

Page 480: To citations of *P[yrocephalus] nanus* add:

BONAPARTE, Consp. Av., i, 1850, 188.

Page 483: To synonymy of *Nesotriccus ridgwayi* add:

Myiarchus ridgwayi BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 477.

Page 485: Add to synonymy of *Cnipodectes minor:*

C[nipodectes] subbrunneus minor BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 482.

Page 487, footnote *a*: To synonymy of *Myiobius barbatus barbatus* add:

Platyrhynchos barbatus Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 10.—[*Myiobius*] *barbata* Bonaparte, Consp. Av., i, 1850, 187.—*Myiobius barbatus barbatus* Hellmayr, Novit. Zool., xiii, 1906, 362 (Pará, Brazil; crit.).

Page 488, footnote *a*: To synonymy of *Myiobius villosus* add:

M[yiobius] sulphureipygius villosus BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 481.

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Page 494, footnote: To synonymy of *Terenotriccus erythrurus erythrurus* add:

Myiobius erythrurus erythrurus HELLMAYR, Novit. Zool., xiii, 1906, 362 (Pará, Brazil; crit.).

Page 496: To citations of *Myiobius erythrurus* add:

BANGS, Auk, xviii, 1901, 363 (Divala, Panama).

Page 508: To citations of *Contopus borealis* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1845, 282, pl. 2, figs. 15, 16 (eggs).

Page 509: The generic name *Myiochanes* Cabanis and Heine is not a substitute name for *Syrichta* Bonaparte, which proves to be a *nomen nudum*. The type is specifically designated as *Platyrhynchus cinereus* SPIX.

Page 511, footnote: According to Count von Berlepsch (Proc. Fourth Int. Orn. Congr., 1907, 478) *Contopus plebeius* Cabanis and Heine is equivalent to *Myiochanes richardsonii* or a related form, which will have to be determined by an examination of the type in the Heine Museum.

Page 515: In first line of diagnosis for *H. p. pertinax* read *M. p. pertinax*.

Page 516: To citations of *Contopus pertinax* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 286, pl. 2, fig. 17 (egg).

To citations of *Horizopus pertinax pallidiventris* add:

MILLER (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 168 (Arroyo del Buey, n. w. Durango, May 27; crit.).

Page 520: In seventh line of synonymy for 42 read 43.

Page 521: To citations of *Contopus virens* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 288, pl. 2, figs. 18, 19 (eggs).—NEHRLING, Our Native Birds, ii, 1896, 352, pl. 33, fig. 5.

Page 523: To citations of *Contopus richardsonii* add:

BENDIRE, Life Hist. N. Am. Birds, ii, 1895, 291, pl. 2, figs. 20–22 (eggs).

Page 524. For *Muscicapa phoebe* read *Muscicapa phœbe*.

Page 529: To citations of *Horizopus brachytarsus* add:

CHERRIE, Sci. Bull. Brookl. Inst. Arts and Sciences, i, 1906, 190 (Heights of Aripo, Trinidad).

To synonymy add:

Blacicus brachytarsus HELLMAYR, Novit. Zool., xiii, 1906, 25 (Caparo, Pointe Gourde, and Valencia, Trinidad; crit.).

Page 536: To citations of *Sayornis dominicensis* add:

REICHENOW and SCHALOW, Journ. für Orn., 1886, 89 (reprint orig. descr.).

Page 542, footnote: To synonymy add:

Myiobius fasciatus Hellmayr, Novit. Zool., xiii, 1906, 25 (Caparo and Seelet, Trinidad; crit.).—*Muscicapa virgata* Vieillot, Nouv. Dict. d'Hist. Nat., xxi, 1818, 488.

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Page 548, footnote *b*: To synonymy add:

Empidonax euleri argentinus Berlepsch, Proc. Fourth Inst. Orn. Congr., Feb., 1907, 479.

Page 551: To citations of *Empidonax flaviventris* add:

Nehrling, Our Native Birds, ii, 1896, 361.

Page 553: To citations of *Muscicapa acadica* add:

Vieillot, Nouv. Dict. d'Hist. Nat., xxi, 1818, 481.

Page 554: To citations of *Empidonax acadicus* add:

Nehrling, Our Native Birds, ii, 1896, pl. 33, fig. 6.

Page 555: To citations of *Empidonax virescens* add:

Nehrling, Our Native Birds, ii, 1896, 356.

Page 557: To citations of *Empidonax traillii traillii* add:

Miller (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 167 (Rio Sestin, n. w. Chihuahua; breeding).

Page 572: To citations of *Empidonax canescens* add:

Miller (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 167 (Villa Ocampo, n. w. Durango, Feb. 19).

Page 573: To citations of *Empidonax pulverius* add:

Miller (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 168 (Cienega de las Vacas, n. w. Durango, Apr. 3).

Page 578: To citations of *Empidonax difficilis* add:

Bryant (W. E.), Proc. Calif. Ac. Sci., ser. 2, 1889, 291 (Cape San Lucas district; Cerros I.; Valladares, fall; San Pedro Martir, May).

Page 581: To citations of *Empidonax cineritius* add:

Bryant (W. E.), Proc. Calif. Ac. Sci., ser. 2, 1889, 291 (La Laguna, Comondu, Santa Margarita I., San Benito, and San Pedro Martir Mts. up to 10,000 ft.).

Page 587: To synonymy of *Empidonax atriceps* add:

Ochthoeca atriceps Berlepsch, Proc. Fourth Int. Orn. Congr., Feb., 1907, 470.

Page 590: To citations of *Empidonax fulvifrons pygmæus* add:

Miller, Bull. Am. Mus. N. H., xxii, 1906, 168 (Cienega de las Vacas, n. w. Durango, Apr. 3).

Page 596: To citations of *Muscicapa fusca* add:

Vieillot, Nouv. Dict. d'Hist. Nat., xxi, 1818, 454.

Page 597: To synonymy of *Sayornis phœbe* add:

Muscicapa phœbe Vieillot, Nouv. Dict. d'Hist. Nat., xxi, 1818, 481.
M[uscicapa] phoebe Lichtenstein, Verz. Doubl., 1823, 54.

Page 597: To citations of *Sayornis phœbe* add:

Ridgway, Orn. Illinois, i, 1889, 347.—Bendire, Life Hist. N. Am. Birds. i, 1895, 272, pl. 1, fig. 28 (egg).—Nehrling, Our Native Birds, i, 1896, 348, pl. 5, fig. 3.

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Page 600: To citations of *Sayornis nigricans* add:

BENDIRE, Life Hist. N. Am. Birds, i, 1895, 280, pl. 1, fig. 30.

Page 604: To citations of *Sayornis saya* add:

RIDGWAY, Orn. Illinois, i, 1889, 348.—BENDIRE, Life Hist. N. Am. Birds, i, 1895, 276, pl. 1, fig. 29.—MILLER (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 168 (Rosario, Las Bocas, Villa Ocampo, and Rio Sestin, n. w. Durango, breeding; crit.).

Page 610, footnote *a*: Before D'Orbigny, Voy. Amer. Mérid., etc., insert *Tyrannus crinitus*, and after citation add: (lat. 28°, Corrientes, Argentina, and Yungas, Bolivia).

Page 612, footnote *b*: After citation of [*Muscicapa*] *ferox* Gmelin, etc., insert: *Tyrannus ferox* Vieillot, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 78.—*T[yrannula] ferox* Hartlaub, Syst. Verz., 1844, 49. For *Myiarchus ferox* Cabanis, Orn. Notizen, etc., read: *M[yiarchus] ferox* Cabanis, Wiegmann's Archiv. für Naturg., 1847, i, 248; and before Sclater, Cat. Birds Brit. Mus., etc., insert: *Myiarchus ferox*.

Page 615: To citations of [*Muscicapa*] *crinita* add:

LATHAM, Index Orn., ii, 1790, 485.

Page 617: In citation of *Tyrannus irritabilis* VIEILLOT insert:

Nouv. Dict. d'Hist. Nat., xxxv, 1819, 76 (new name for *Muscicapa crinita* Linnæus).

Page 620: Add to synonymy of *Myiarchus oberi berlepschii:*

Myiarchus oberi berlepschi BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 476.

In Kat. Vogelsaml. Senckenburg., 1891, 103, Doctor Hartert cites *M[yiarchus] tyrannulus berlepschi* Reichen[ow], from Bahia. I do not know whether the above name, as applied to a bird of this genus from Bahia, was first published before or after publication of the name *Myiarchus berlepschii* Cory.

Page 621: To synonymy of *Myiarchus brevipennis* add:

Myiarchus tyrannulus brevipennis BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 476.

Page 621: For *Myiarchus mexicanus mexicanus* (Kaup) read *Myiarchus magister nelsoni* Ridgway, this change being rendered necessary by determination of the fact (as recorded by Mr. W. H. Osgood in Auk, xxiv, Apr., 1907, 219, 220) that the type of *Tyrannula mexicana* Kaup belongs to the species commonly known as *Myiarchus cinerascens* Lawrence, as suspected by Baird, Nelson, and others. The type of *M. m. nelsoni* is no. 158,786, coll. U. S. Nat. Mus. (collector's no., 5202), Alta Mira, Tamaulipas, Mexico, Apr. 4, 1898; E. A. Goldman.

Page 622: After *Myiarchus mexicanus*, second paragraph of synonymy, insert: (not *Tyrannula mexicana* Kaup).

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Page 623: To synonymy add:

Myiarchus tyrannulus cooperi BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 476.

Page 623: For *Myiarchus mexicanus magister* Ridgway read *Myiarchus magister magister* (Ridgway).

Page 624: Add to synonymy:

Myiarchus tyrannulus magister BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 476.

Page 627: To synonymy of *Myiarchus cinerascens cinerascens* add:

Tyr[annula] mexicana KAUP, Proc. Zool. Soc. Lond., 1851 (pub. Oct. 28, 1852), 51 (Mexico; coll. Darmstadt Mus.; see Baird, Rep. Pacific R. R. Surv., ix, 1858, 180; Sclater, Proc. Zool. Soc. Lond., 1871, 84; Nelson, Proc. Biol. Soc. Wash., xvii, 1904, 25, 26; Osgood, Auk, xxiv, 1907, 219, 220).

Page 638: To synonymy add:

Myiarchus sagrae lucaysiensis BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 477.

Page 640: To synonymy of *Myiarchus sclateri* add:

Myiarchus oberi sclateri BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 476.

The species is, however, certainly very distinct from *M. oberi*.

Page 650: To citations of *Myiarchus lawrencei olivascens* add:

MILLER (W. D.), Bull. Am. Mus. N. H., xxii, 1906, 168 (Rio Sestin, n. w. Durango breeding).

Page 652: To synonymy add:

Myiarchus tuberculifer nigriceps BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 477.

Page 655, footnote *a*, first line: For xxv, 1817, read xxxv, 1819, and correct citation of page of Voy. Amer. Mérid., Ois., to read 305 instead of 149.

Page 655, footnote *b*: In citation of *Tyrannus audax* Vieillot insert: Nouv. Dict. d'Hist. Nat., xxxv, 1819, 74, and to synonymy add: *T[yrannula] audax* Hartlaub, Syst. Verz., 1844, 49 (Brazil). (Perhaps, however, this should go with synonymy of *M. solitarius*.)

Page 656, footnote *b*: To synonymy add:

Megarhynchus chrysocephalus Berlepsch, Proc. Fourth Int. Orn. Congr., 1907, 475.

Page 661: To citations of *Myiodynastes audax nobilis* add:

THAYER and BANGS, Bull. Mus. Comp. Zool., xlvi, 1906, 219 (Sabana de Panama).

Page 663: To synonymy of *Myiodynastes hemichrysus* add:

Megarhynchus chrysocephalus hemichrysus BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 475.

Page 665, first line of footnote: After *Tyrannus carnivorus* Vieillot, insert: Nouv. Dict. d'Hist. Nat., xxxv, 1819, 75 (based on *Lanius pitangva* Linnæus).

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Page 665, fifth line of footnote: For Lichtenstein read Hartlaub.

Page 671, footnote *a*: In citation of *Tyrannus magnanimus* Vieillot, insert:

Nouv. Dict. d'Hist. Nat., xxxv, 1819, 81 (based on *Lanius sulphuratus* Linnæus, *Corvus flavus* Gmelin, and *Corvus flavigaster* Latham).

Page 671, footnote *b*: To synonymy add:

Pitangus derbianus bolivianus Allen, Bull. Am. Mus. N. H., iv, Dec., 1892, 337 (Chapada, Mattogrosso, Brazil).

Page 683: To synonymy of *Tolmarchus jamaicensis* add:

Pitangus caudifasciatus jamaicensis Berlepsch, Proc. Fourth Int. Orn. Congr., Feb., 1907, 475.

Page 693: In citation of *Tyrannus intrepidus* Vieillot insert:

Nouv. Dict. d'Hist. Nat., xxxv, 1819, 79 (based on *Lanius tyrannus*, Var. B and Var. C, Latham; etc.).

Page 702, footnoote: Reference is made to the fact that "specimens from Yucatan are almost invariably clear yellowish olive-green on the back, etc., and closely resemble in coloration *T. m. couchii*," while "on the other hand none of the specimens from the island of Cozumel are like those from the mainland of Yucatan, all (in the series before me) having more gray than olive-green above." The yellowish green-backed birds from the mainland of Yucatan have recently been separated by Count von Berlepsch as *Tyrannus chloronotus* (Proc. Fourth Int. Orn. Congr., Feb., 1907, 474; Temax, Yucatan; coll. Count von Berlepsch). Since there can be no question of the intergradation of this form with *T. melancholicus*, through *T. m. satrapa*, its correct name would be *Tyrannus melancholicus chlorònotus* (Berlepsch).

Page 708: After *Muscicapa dominicensis* Audubon, Orn. Biog., etc., insert: Synopsis, 1839, 39.

Page 709: After *Tyrannus matutinus* insert:

Vieillot, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 82 (based on *Lanius tyrannus* Var. A. Latham).

Page 717: To citation of [*Muscicapa*] *förficata* add:

Latham, Index Orn., ii, 1790, 485.

After *Muscicapa forficata* Vieillot, Ois. Am. Sept., etc., add:

Nouv. Dict. d'Hist. Nat., xxi, 1818, 456.

Page 718: Add to synonymy:

Muscivora forficatus Berlepsch, Proc. Fourth Int. Orn. Congr., 1907, 471.

Page 720: To citation of *M[uscicapa] tyrannus* add:

Maximilian, Beitr. Naturg. Bras., iii, 1831, 834 (Rio Belmonte, Provinces of Minas and Bahia, and Campos Geraes, Brazil).

Page 722: After *Tyrannus savana* Vieillot, Ois. Am. Sept., etc., add:

Nouv. Dict. d'Hist. Nat., xxxv, 1819, 87.

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Page 726, footnote *c*: For Proc. Zool. Soc. Lond., 1881, 269, read: Ibis, 1881, 268.

Page 727, footnote *c*: Before *Pipra cinnamomea* Lawrence insert:

N. rubicunda Sclater and Salvin, =.

Page 729, footnote *b*: To synonymy add:

Manacus manacus Allen, Bull. Am. Mus., N. H., ii. Mar. 22, 1889, 73 (Rio Napo, e. Ecuador).

Page 729, footnote *c*: To synonymy add:

Chiromachaeris manacus purus Hellmayr, Novit. Zool., xiii, July 10, 1906, 363 (near Pará, Brazil; crit.).

Page 736, footnote *a*: After *Pipra pareola* insert:

Vieillot, Nouv. Dict. d'Hist. Nat., xix, 1819, 165.

To synonymy add:

Chiroxiphia pareola pareola Hellmayr, Novit. Zool., xiii, 1906, 363 (Prata, Pará, Brazil).—*Pipra superba* Vieillot, Nouv. Dict. d'Hist. Nat., xix, 1818, 164.

Page 742, footnote *c*: After *Pipra rubricapilla* insert:

Sclater and Salvin, Proc. Zool. Soc. Lond., 1873, 282 (Santa Cruz, e. Peru).

Page 743, footnote *b*: In second line of footnote insert, after Sclater:

Proc. Zool. Soc. Lond., 1858, 457 (Gualaquiza, e. Ecuador).

Page 744, footnote *c*: Add to synonymy:

Pipra leucocilla leucocilla Hellmayr, Novit. Zool., xiii, 1906, 363 (near Pará, Brazil).

Page 749: To citations of [*Pipra*] *erythrocephala* add:

LATHAM, Index Orn., ii, 1790, 556.

In citations of *Pipra erythrocephala* after VIEILLOT insert:

Nouv. Dict. d'Hist. Nat., xix, 1818, 165,

and add to citations:

CHERRIE, Bull. Brookl. Inst. Arts and Sciences, i, 1906, 190 (Heights of Aripo, Trinidad).

Page 750: After *P*[*ipra*] *erythrocephala* insert:

LICHTENSTEIN, Verz. Doubl., 1823, 29 (Brazil).—HARTLAUB, Syst. Verz., 1844, 55 (Brazil).

Page 750: After citations of *Pipra auricapilla* add:

(?) *Pipra auricapilla* BURMEISTER, Syst. Ueb. Th. Bras., ii, 1856, 444.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 580 (Pará and Barra do Rio Negro, Brazil).—LAYARD, Ibis, 1873, 384 (Nazaré and Pebas, Brazil).—GOELDI, Ibis, 1903, 499 (Capim R., n. e. Brazil).[a]

[a] The interrogation point indicates uncertainty as to whether really subspecifically identical with *P. e. erythrocephala*, no Brazilian specimens having been seen by me.

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Page 750: To citations of [*Pipra*] *auricapilla* add:

GOELDI, Ibis, 1903, 499 (Capim R., n. e. Brazil).

After [*Pipra*] *auricapilla* insert:

HARTLAUB, Syst. Verz., 1844, 55 (Brazil).

After *Pipra aurocapilla* insert:

PELZELN, Orn. Bras., ii, Abth., 1869, 127 (Barra do Rio Negro, San Pedro, Rio Negro, Maribatanas, Rio Inçauna, and Barcellos, Brazil);

and add to synonymy:

P[*ipra*] *aurocapilla* LICHTENSTEIN, Verz. Doubl., 1823, 29 (Brazil).
[*Pipra*] *aurocapilla* PELZELN, Orn. Bras., iv. Abth., 1870, 428.

Page 758, footnote *a*: Add to synonymy:

Scotothorus amazonum wallacii Hellmayr, Novit. Zool., xiii, 1906, 363 (near Pará, Brazil; crit.)

Page 766: In second line of synonymy, for Coll. Brit. Mus. read coll. Derby Mus.

Page 770, footnote *c*: To the genera of Cotingidæ having typically pycnaspidean tarsi add *Chirocylla*.

Page 772, footnote *a*: Eliminate *Chirocylla* from the list of genera not examined by me, a specimen of the type (and only known) species having recently been acquired by the U. S. National Museum. In external structure *Chirocylla* is entirely like *Lathria* except the primaries, which are remarkably modified, being attenuated and strongly recurved terminally, the tenth (outermost) longest, the eighth and seventh shortest (or at least not longer than the first) and with the tip more attenuated than the others, the ninth and tenth with inner web emarginated or notched subterminally. In size, relative proportions of different parts, and in coloration (except that the rump, flanks, and under tail-coverts are chestnut) *Chirocylla uropygialis* closely resembles *Lathria fuscocinerea*. The primaries are said to be less modified in the female.

Page 772, footnote *d*: Add to synonymy:

Psaliurus Bertoni, Av. Nuev. Parag., 1901, 105. (Type, *P. acevalianus* Bertoni, = *Phibalura flavirostris* Vieillot.)

Page 773, footnote *d*: Add to synonymy:

Jodopleura Bonaparte, Consp. Av., i, 1850, 171.

Page 779, footnote: Add to synonymy:

Ampelis cayanna Vieillot, Nouv. Dict. d'Hist. Nat., viii, 1817, 169.

Page 780, footnote *a*: Insert in synonymy:

Ampelis cærulea Vieillot, Nouv, Dict. d'Hist. Nat., viii, 1817, 161 (based on *Ampelis cotinga* Latham and Pl. Enl., pl. 186).

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Page 780, footnote *b*: Before Sclater, Cat. Birds, etc., insert: *Cotinga cincta.*

Count von Berlepsch has recently described as a new species a *Cotinga*, related to *C. ridgwayi* and *C. nattererii* and possibly the same as the latter, under the name *Cotinga simoni* (Berlepsch, Proc. Fourth Internat. Orn. Congr., Feb., 1907, 361), from southwestern Colombia (San José de Rio Dagua and Buenaventura; coll. Count von Berlepsch). He compares it with *C. ridgwayi* (*C. nattererii* being possibly unknown to him), from the adult male of which that of *C. simoni* is said to differ as follows: "The violaceous color of the throat and the middle belly is rather darker, nearly black; the blue of the upper parts is also darker, and the top of the head is shaded with darker violaceous. The blue band on the upper breast is broader. There is a bright blue spot on the upper chin wanting in the other species. The wings are longer and the bill much longer and broader. The third primary is rather narrower. In all other points, especially in the length of the upper and under tail-coverts, it agrees perfectly with *C. ridgwayi*. The female is quite differently colored from that of *C. amabilis*, but agrees very well with the female of *C. cayana*."

Page 800, footnote *a*: Specimens from Bogotá and Santa Marta, Colombia, have recently been separated as *Elaenia gaimardi bogotensis* by Count von Berlepsch (Proc. Fourth Int. Congr., Feb., 1907, 421; Bogotá, Colombia; coll. Count von Berlepsch), while those from British Guiana, Cayenne, and northeastern Brazil have been separated as *Elaenia gaimardi guianensis* (Berlepsch, Proc. Fourth Int. Orn. Congr., Feb., 1907, 421; Camacusa, British Guiana; coll. Count von Berlepsch).

To synonymy of *Elainopsis gaimardii gaimardii* add:

M[uscicapa] albicilla (not of Vieillot) D'Orbigny and Lafresnaye, Mag. de Zool., 1837, Synop. Av., 52 (Yuracares, Bolivia).—*[Leptopogon] gaimardi* Bonaparte, Consp. Av., i, 1850, 186.—*M[uscicapa] elegans* D'Orbigny and Lafresnaye, Mag. de Zool., 1837, Synop. Av., 52 (Chiquitos, Bolivia).

Page 801: To synonymy of *Elainopsis gaimardii macilvainii* add:

Elaenia macilvaini BERLEPSCH, Proc. Fourth Int. Orn. Congr., Feb., 1907, 423 (monogr.).

Page 828, footnote *a*: Before ? *[Lanius] atricapillus* Gmelin, etc., insert: ? *Lanius atricapillus* Merrem, Beyträge Gesch. Vog., ii, 1786, pl. 8. For *Muscipeta marginata* read *M[uscipeta] marginata;* and add to synonymy:

Tityra marginata Sclater, Proc. Zool. Soc. Lond., 1854, 113 (Quijos, e. Ecuador).

Page 828, footnote *b*: Insert in synonymy:

Platyrhynchos rufescens Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 17.

Page 840: Insert in synonymy:

Pipra atricapilla VIEILLOT, Nouv. Dict. d'Hist., Nat., xxiii, 1818, 422.

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For *B[athmidurus] atricapillus* CABANIS, Wiegmann's Archiv. für Naturg., 1847, pt. i, 245, read:

P[achyrhamphus] atricapillus CABANIS, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 242 (Cayenne).

Page 847: In *c* under *bb*, for "Under parts pale buff or buffy white," read: Under parts wholly buffy gray or grayish buff.

Page 847, footnote *a*: Before Sclater, Cat. Birds Brit. Mus., etc., insert: *Hadrostomus minor.*

Page 862, footnote *a*: To synonymy of *Erator inquisitor inquisitor* add:

Tityra erytrogenis (not *Psaris erythrogenys* Selby) Lynch-Arribalzaga, Apunt. Crit. Av. Parag. Bertoni, 1902, 360.

Page 867, footnote *b*: Before Sclater, Cat. Birds Brit. Mus., etc., insert: *Tityra cayana.* Add to synonymy:

Pachyrhynchus cajanus Spix, Av. Bras., ii, 1825, 32, pl. 44, fig. 2 (Prov. Piauhy, Brazil).—*P[saris] cajanus* Hartlaub, Syst. Verz., 1844, 50 (Brazil).

Page 868, footnote *a*: For *Tityra semifasciata* Cabanis, etc., read *T[ityra] semifasciata* Cabanis, in Wiegmann's Archiv. für Naturg., 1847, pt. i, 239, part; and insert before Sclater, Cat. Birds Brit. Mus., etc., *Tityra semifasciata;* and add to synonymy:

P[saris] semi-fasciatus D'Orbigny and Lafresnaye, Mag. de Zool., 1837, Synop. Av., p. 41 (Santo Corazon de Chiquitos, Bolivia).

Page 871: Add to synonymy:

[*Tityra*] *semifasciatus* BONAPARTE, Consp. Av., i, 1850, 180, part (Central America).

Page 873: For *T[ityra] semifasciata*. . . . CABANIS read *T[ityra] semifasciatus* . . . CABANIS, and at end of citation substitute Jalapa for Mexico. Add to synonymy:

[*Tityra*] *semifasciatus* BONAPARTE, Consp. Av., i, 1850, 180, part (Mexico).

Page 882, footnote *b*: Before Sclater, Cat. Birds Brit. Mus., etc., insert: *Chasmorhynchus niveus.*

Page 882, footnote *c*: Insert in synonymy:

C[asmarhynchus] nudicollis Hartlaub, Syst. Verz., 1844, 57 (Brazil).

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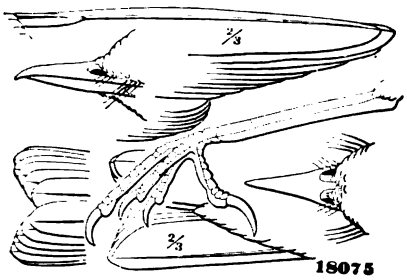

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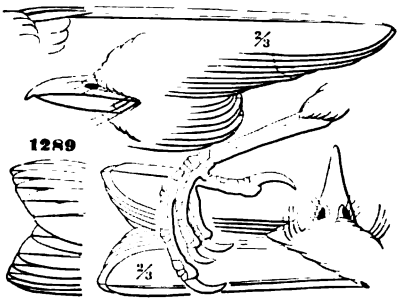
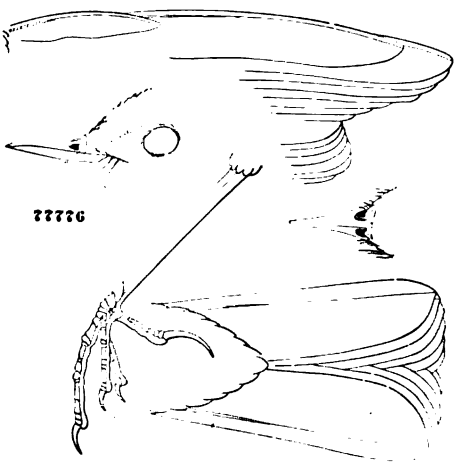


2. SIALIA sialis.



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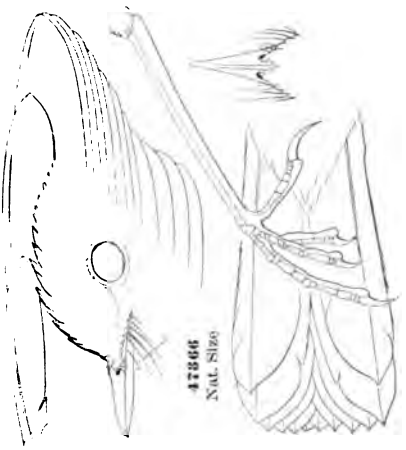
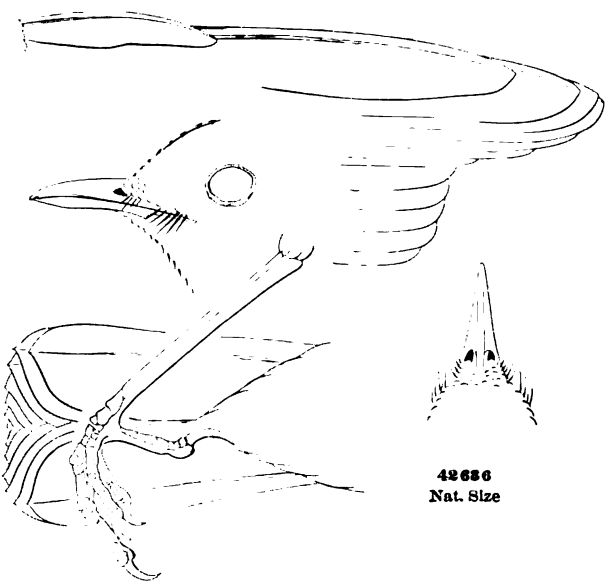


4. CATHARUS gracilirostris.



5. CATHARUS dryas.

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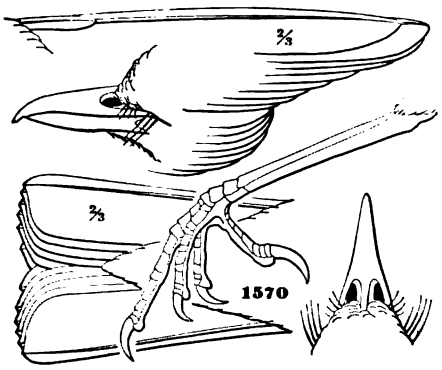

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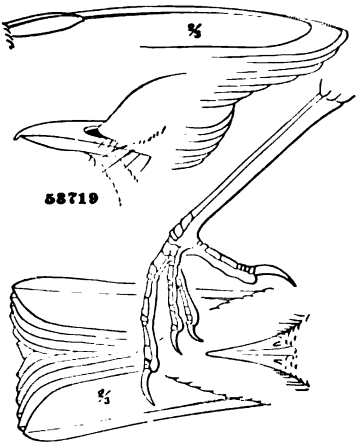

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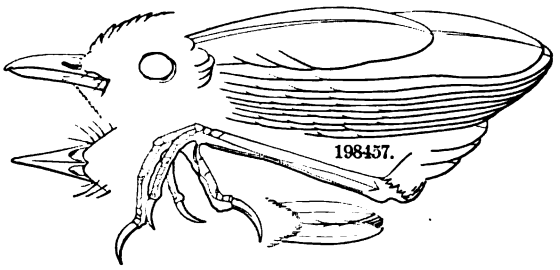

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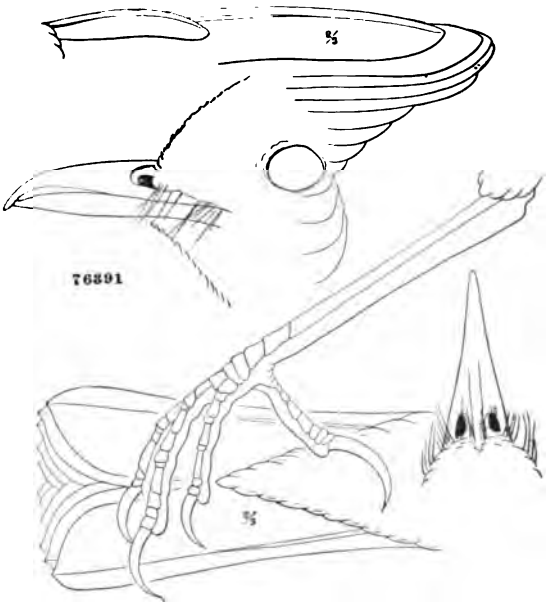

4. CICHLHERMINIA herminieri.

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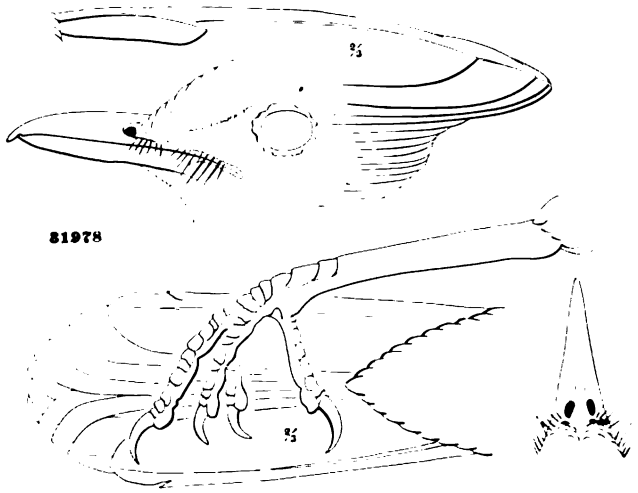

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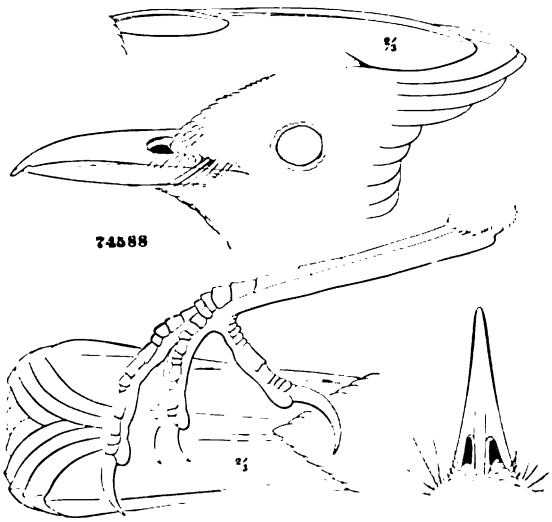

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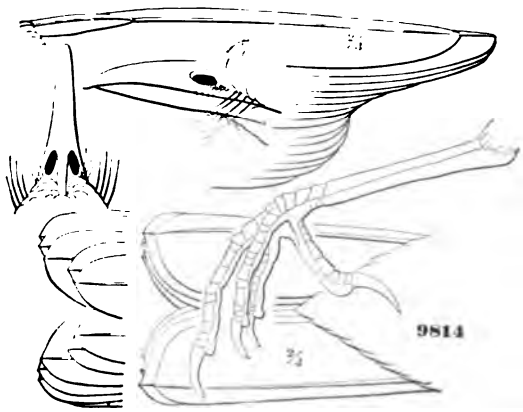

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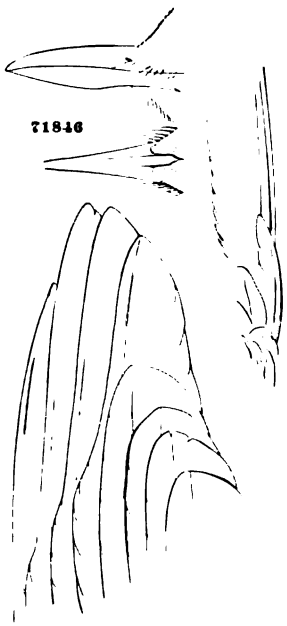

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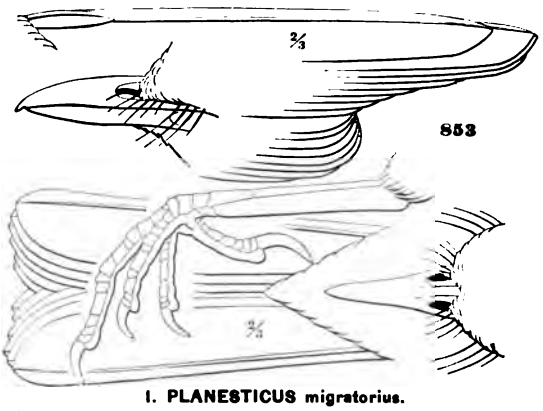

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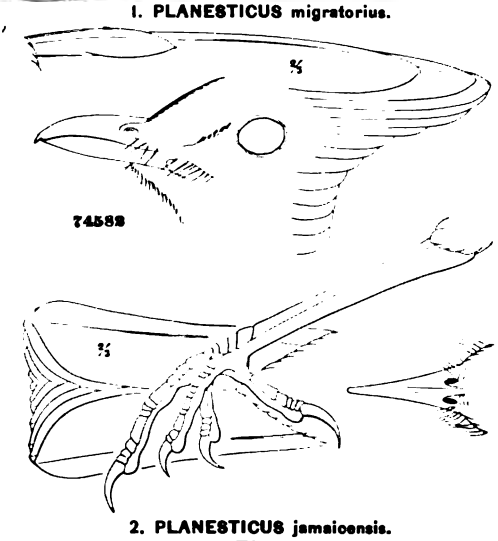
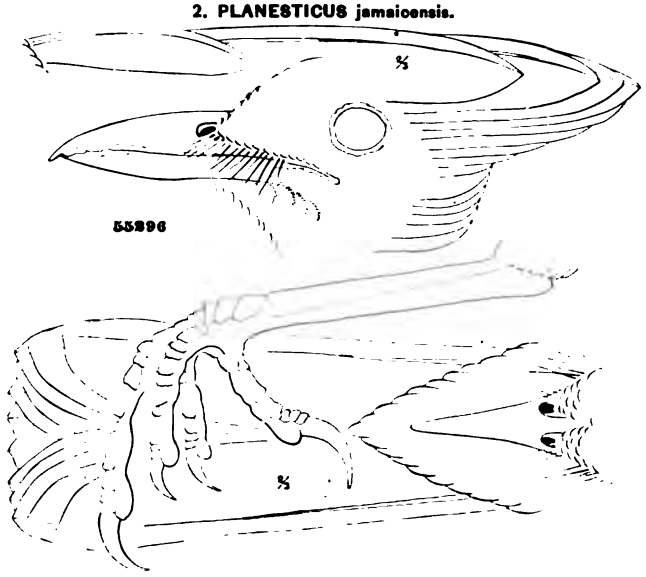


2. PLANESTICUS jamaicensis.



3. Planesticus (SEMIMERULA) gigas.

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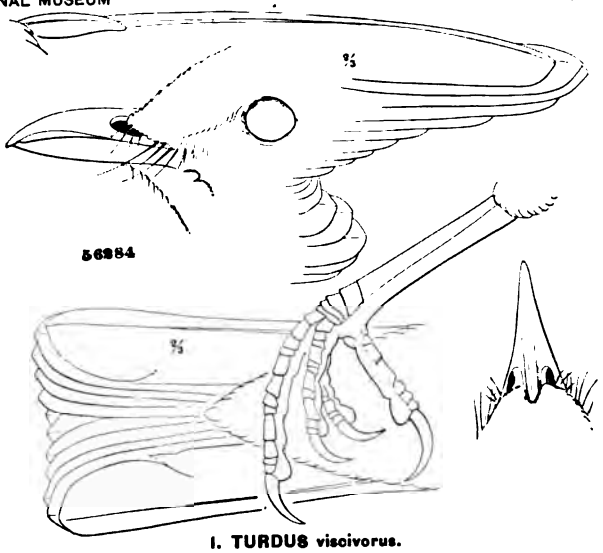
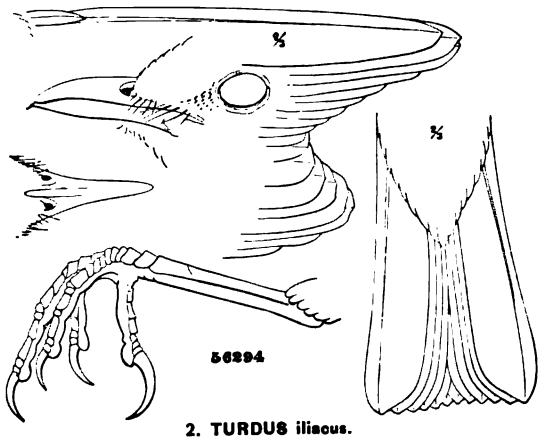


1. TURDUS viscivorus.



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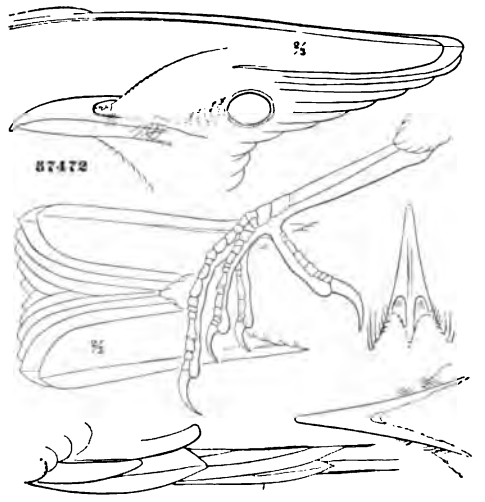

3. RIDGWAYIA pinicola.

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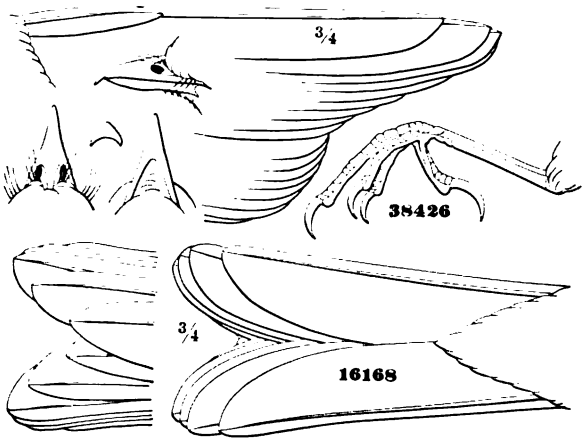

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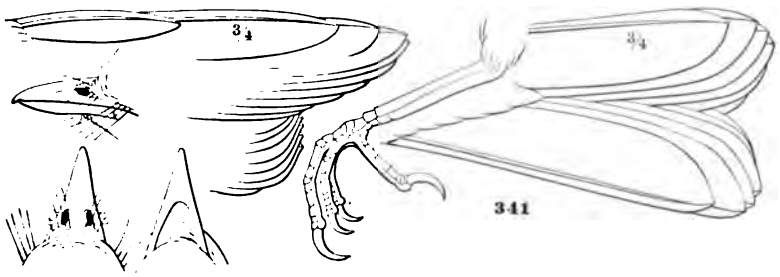
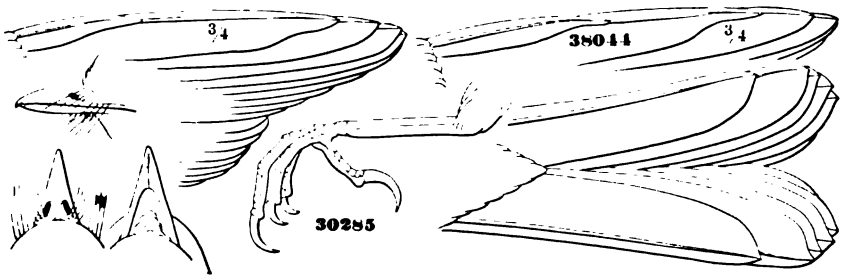


2. MYADESTES elisabeth.



3. MYADESTES solitarius.

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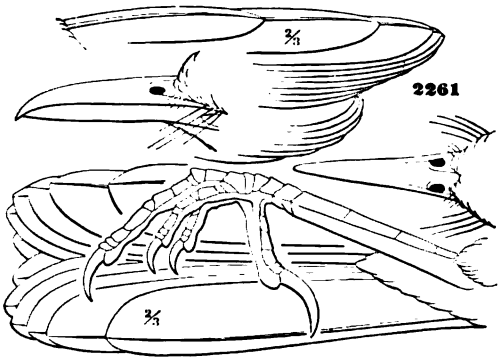
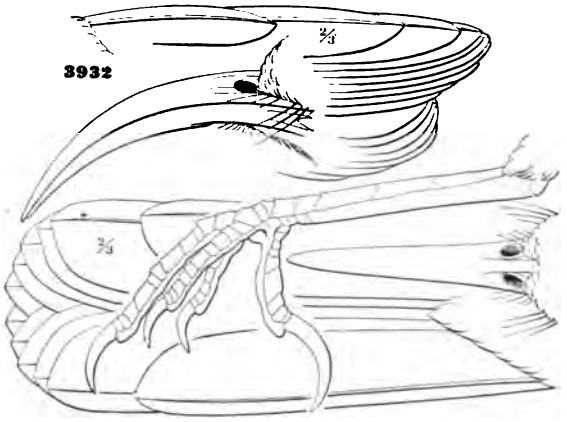
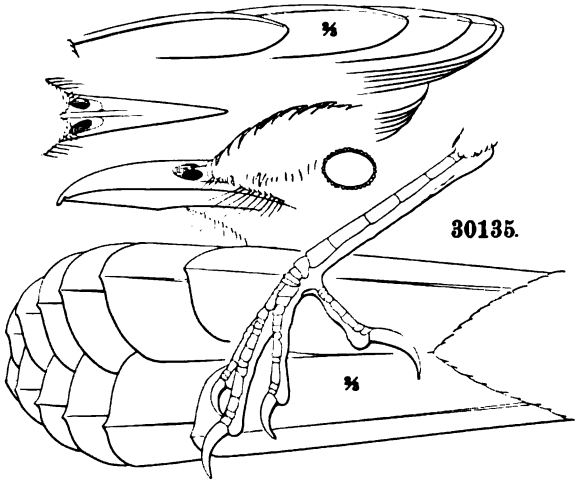


1. TOXOSTOMA rufum.



2. TOXOSTOMA redivivum.



3. MELANOTIS cærulescens.

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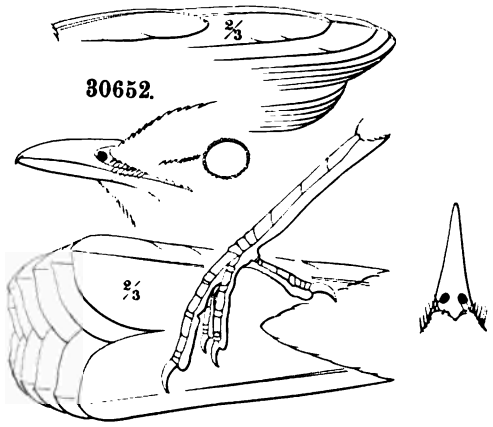
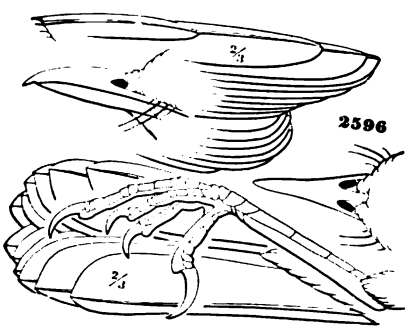
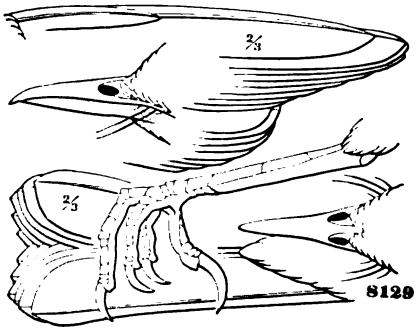


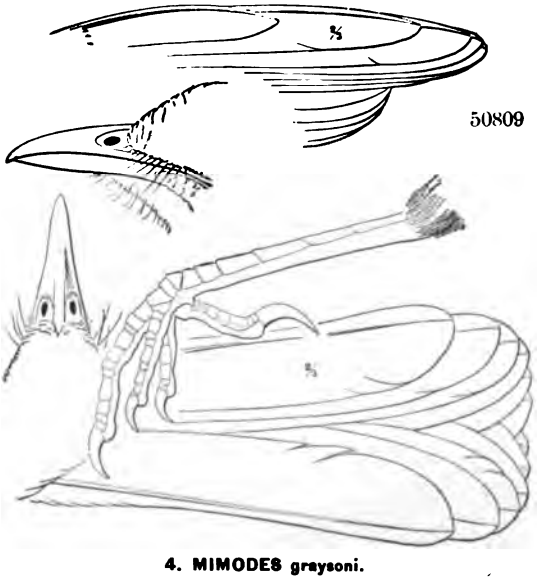
1. MELANOPTILA glabrirostris.



2. GALEOSCOPTES carolinensis.



3. OROSCOPTES montanus.



4. MIMODES graysoni.

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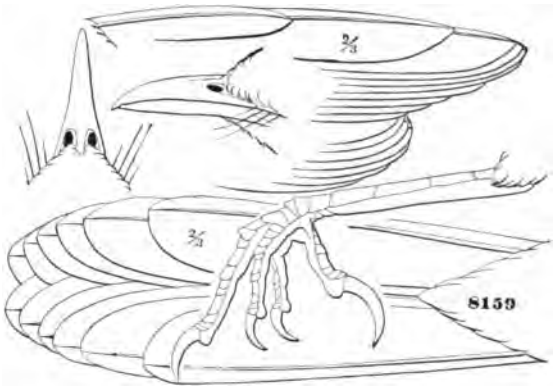
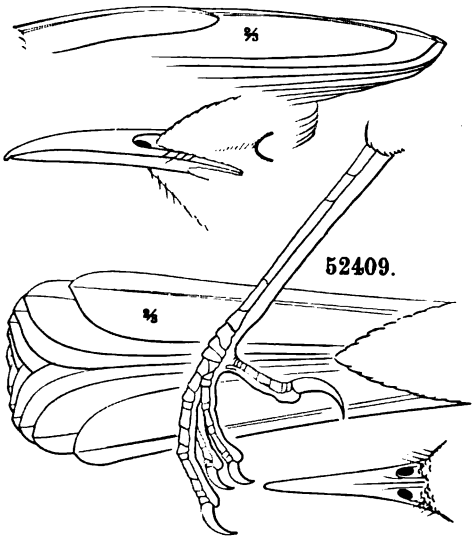
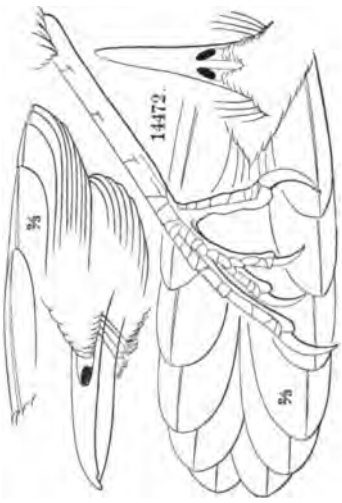


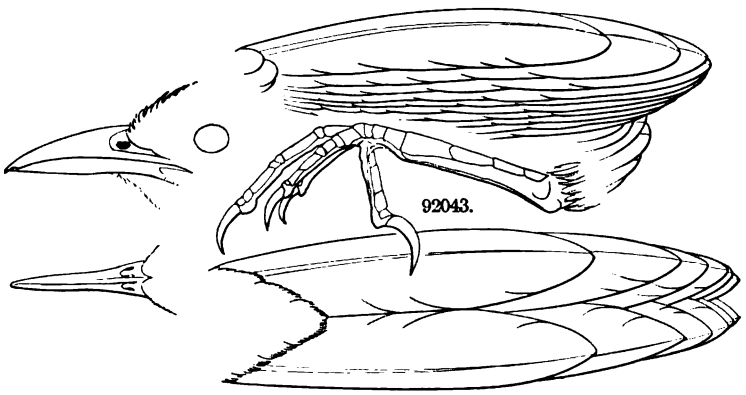
1. **MIMUS polyglottos.**



2. **NESOMIMUS melanotis.**



3. **DONACOBIUS atricapillus.**



4. **CALYPTOPHILUS frugivorus.**

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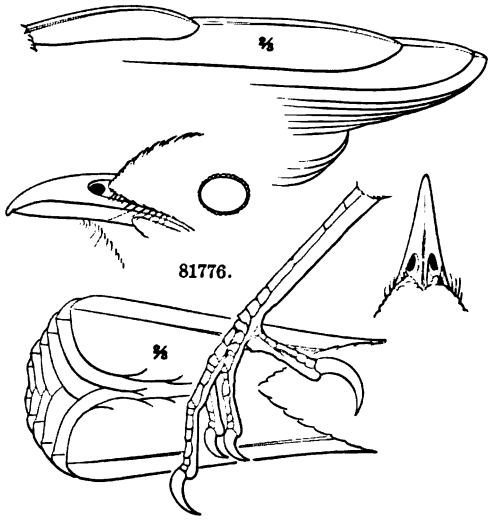
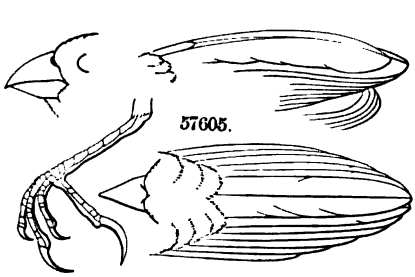
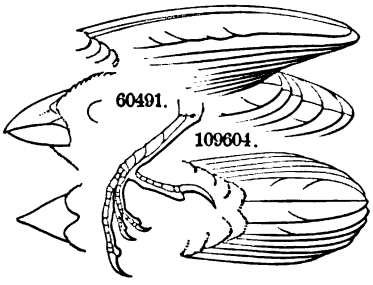


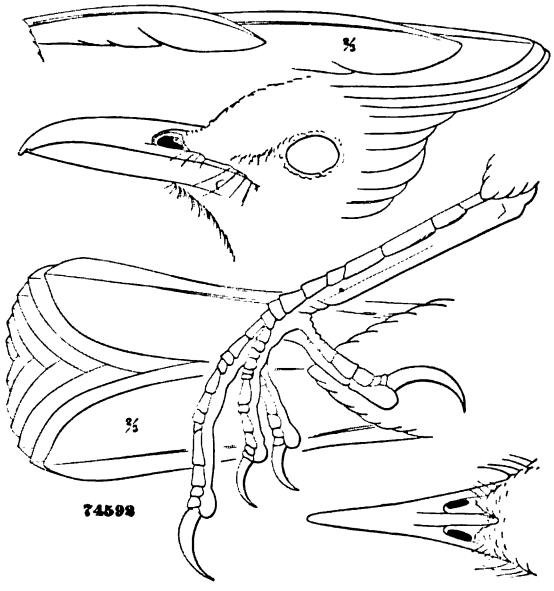
1. ALLENIA apicalis.



2. ESTRILDA melpoda.



3. SPERMESTES cucullata.



4. MARGAROPS fuscatus.

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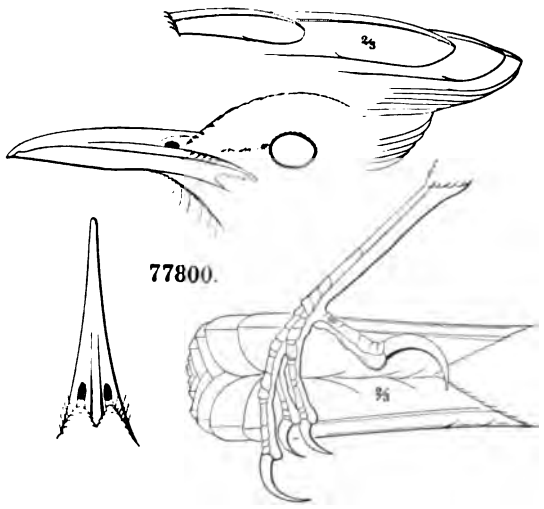
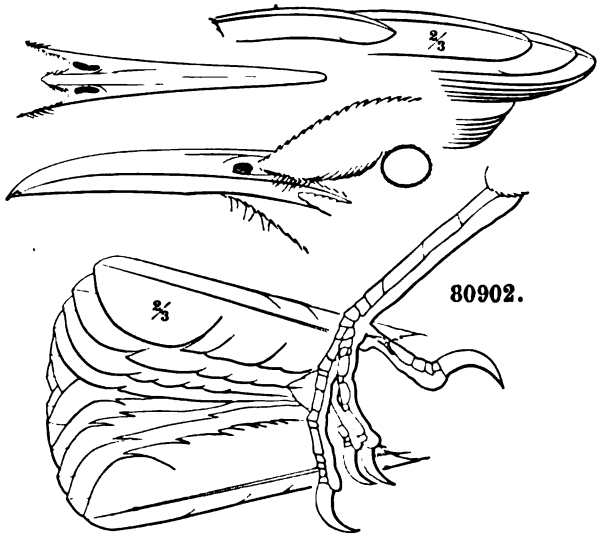


1. CINCLOCERTHIA ruficauda.



2. CINCLOCERTHIA macrorhyncha.

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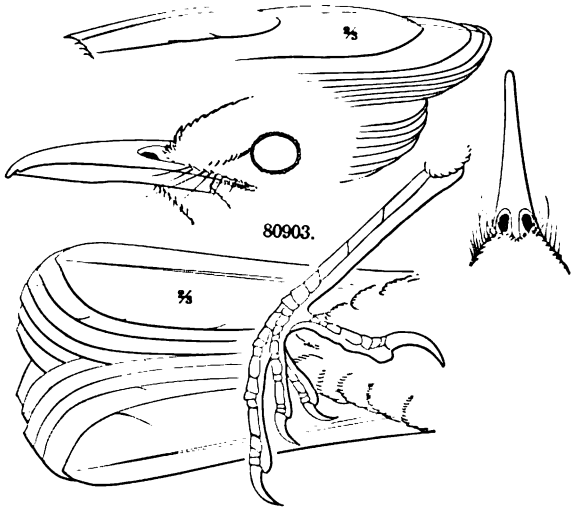
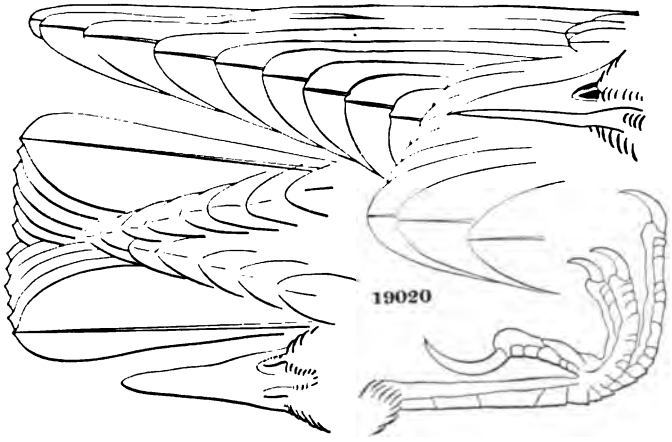
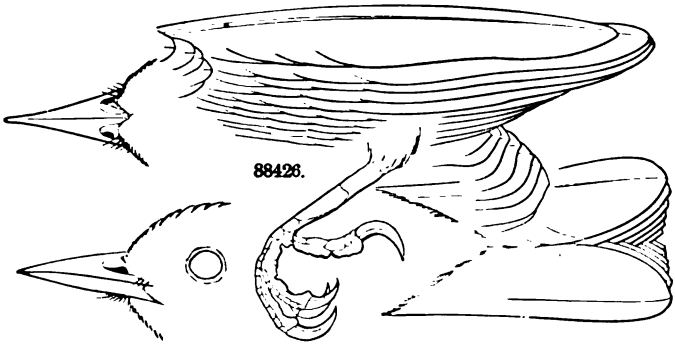


1. RAMPHOCINCLUS brachyurus.



2. STURNUS vulgaris.



3. OXYRUNCUS cristatus.

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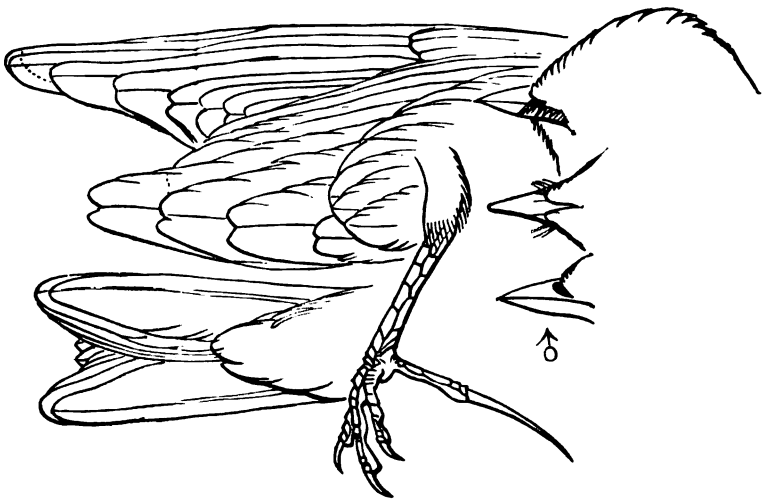
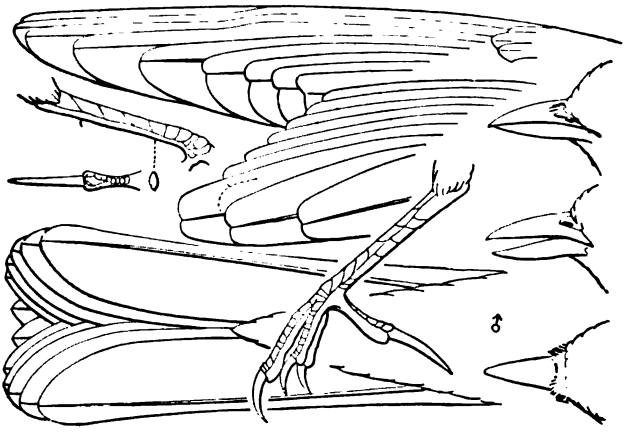


1. ALAUDA arvensis.



2. OTOCORIS alpestris.

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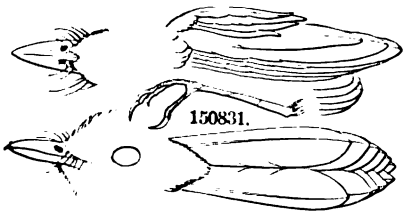
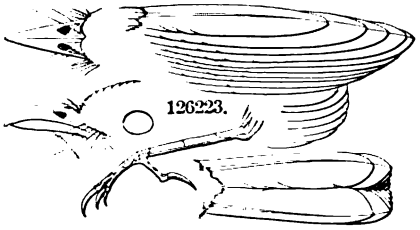
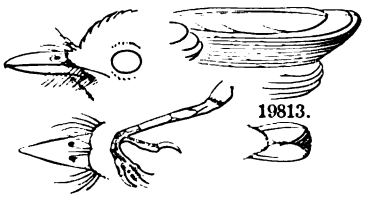


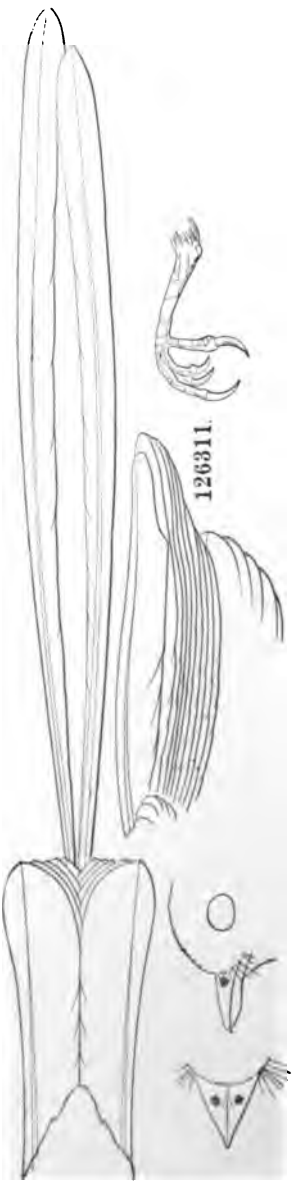
1. ATALOTRICCUS pilaris.



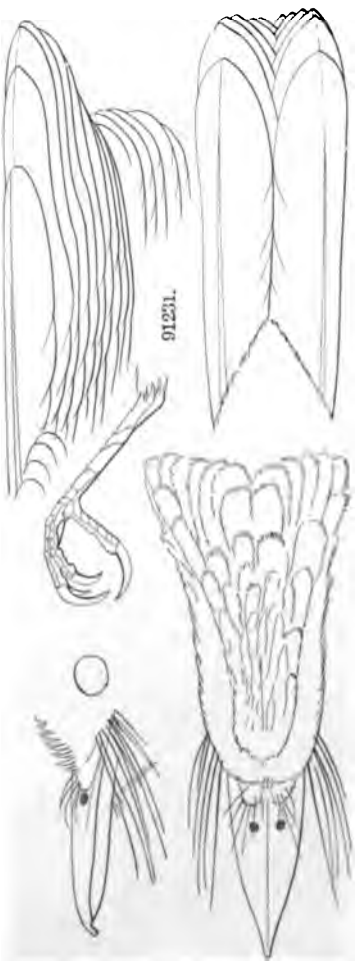
2. ONCOSTOMA cinereigulare.



3. PERISSOTRICCUS caudatus.



4. COPURUS leuconotus.



5. ONYCHORHYNCHUS mexicanus.

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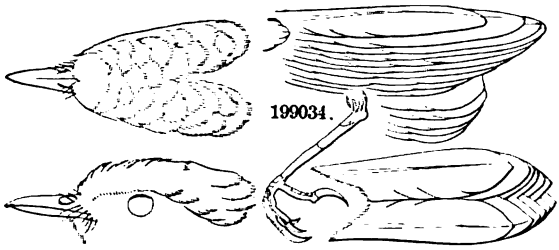
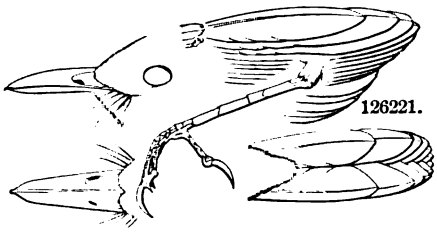
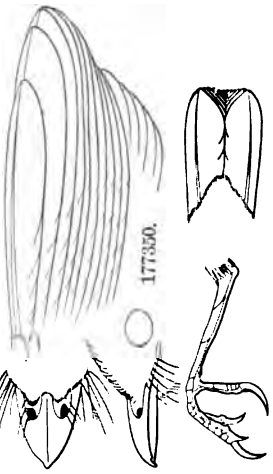


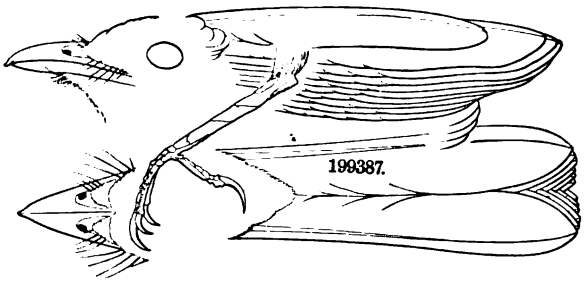
1. **LOPHOTRICCUS minor.**



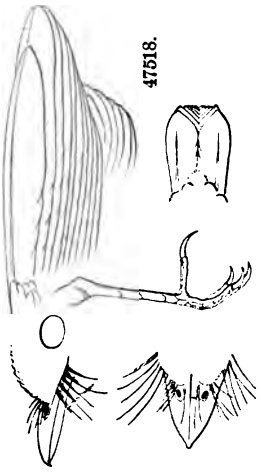
2. **TODIROSTRUM cinereum.**



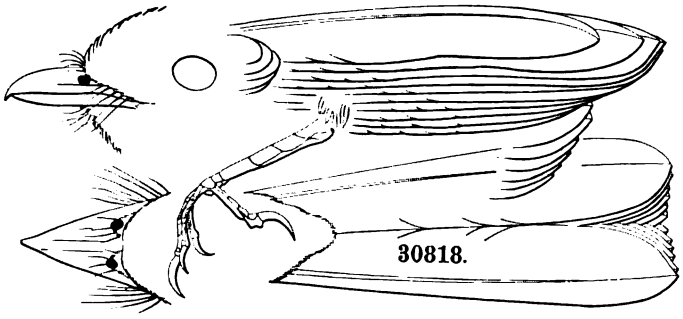
3. **PLATYTRICCUS canorominus.**



4. **RHYNCHOCYCLUS cinereiceps.**



5. **PLACOSTOMUS superciliaris.**



6. **CRASPEDOPRION brevirostris.**

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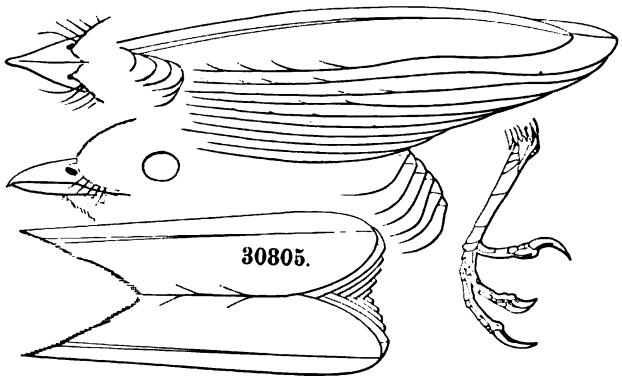
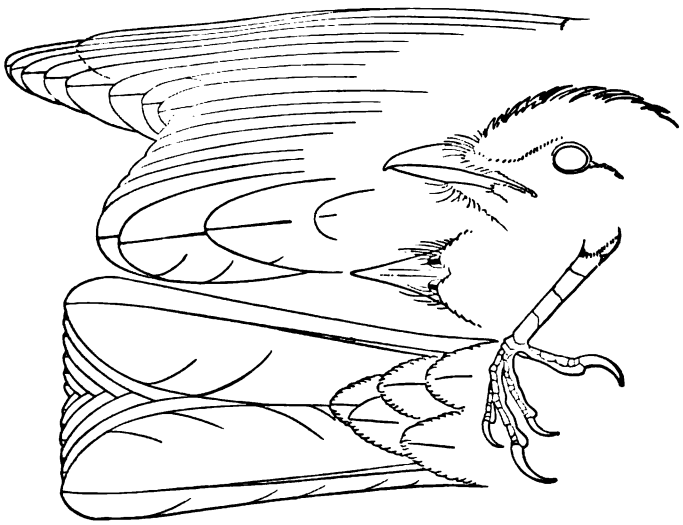
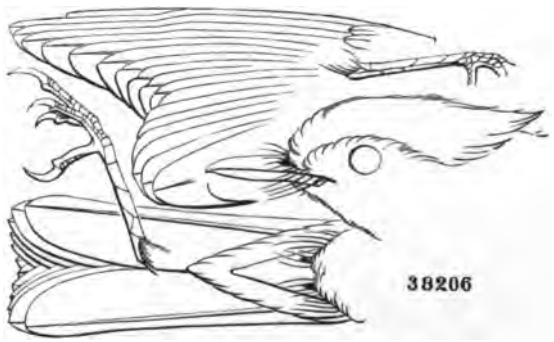


1. **LEGATUS albicollis.**



2. **MYIOZETETES texensis.**



3. **PYROCEPHALUS mexicanus.**

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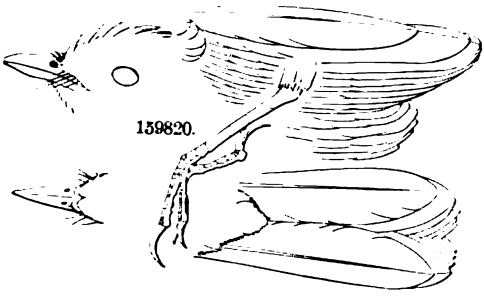
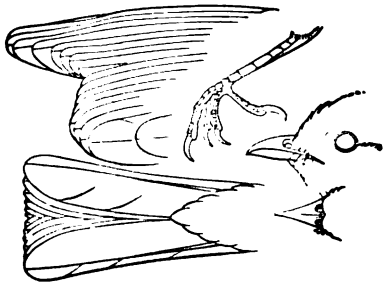
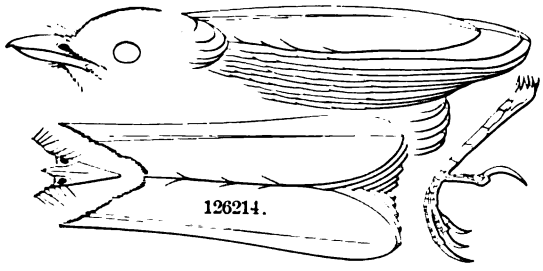


1. SERPOPHAGA cinerea.

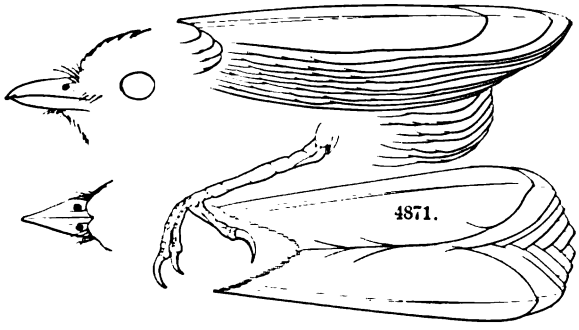


2. CAMPTOSTOMA imberbe.

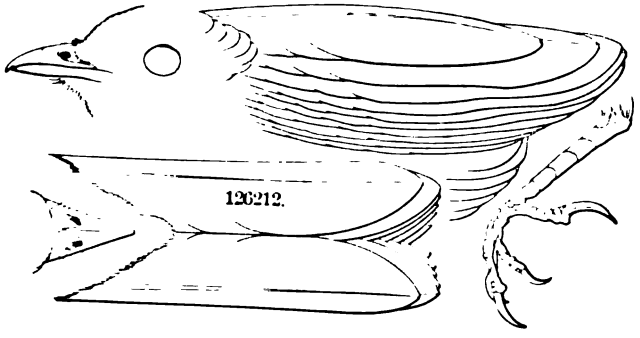


3. MYIOPAGIS placens.

5. TYRANNISCUS vilissimus.



4. SUBLEGATUS glaber.



6. ELÆNIA subpagana.

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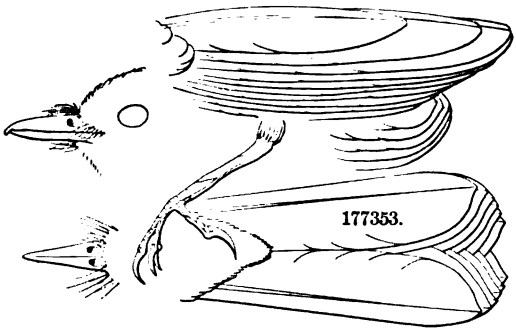
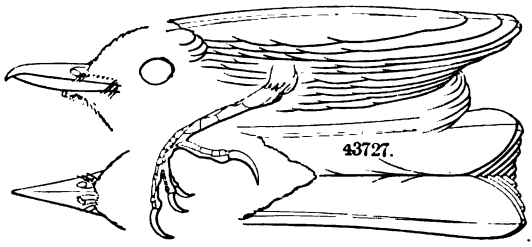
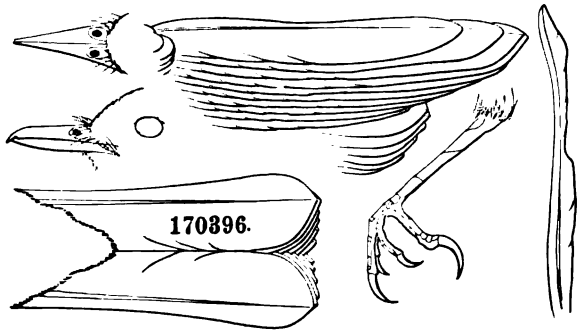


1. LEPTOPOGON pileatus.



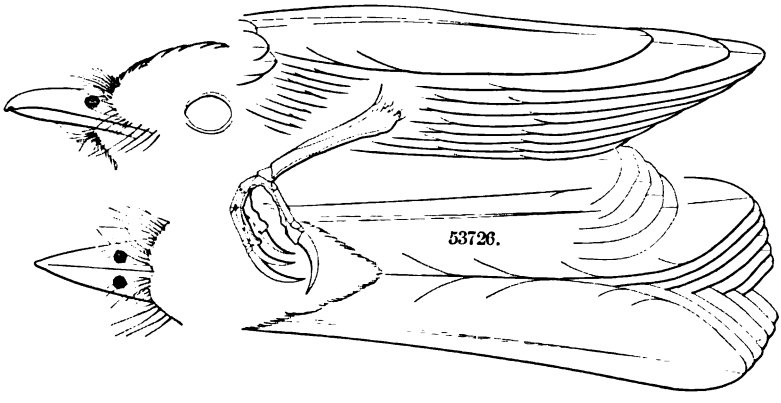
2. PIPROMORPHA assimilis.



3. MIONECTES olivaceus.

4. TERENOTRICCUS fulvigularis.

5. CAPSIEMPIS flaveola.



6. CNIPODECTES subbrunneus.

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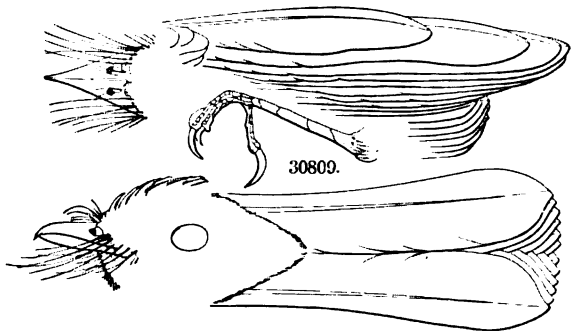
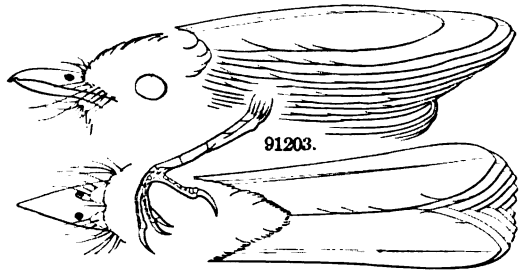
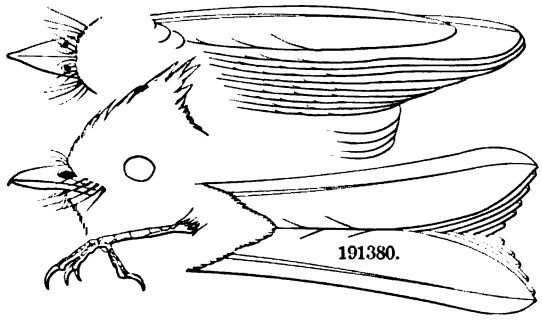


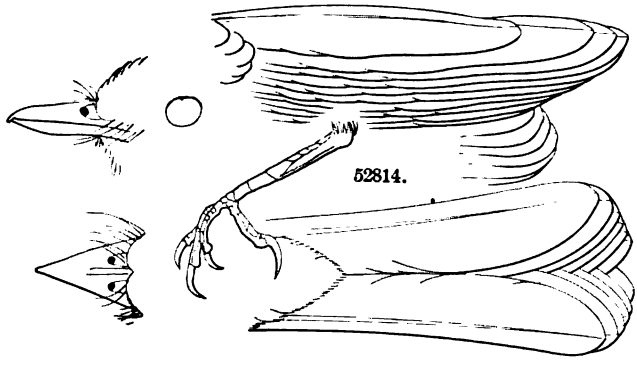
1. **MYIOBIUS sulphureipygius.**



2. **APHANOTRICCUS capitalis.**



3. **MITREPHANES phæocercus.**



4. **DELTARHYNCHUS flammulatus.**

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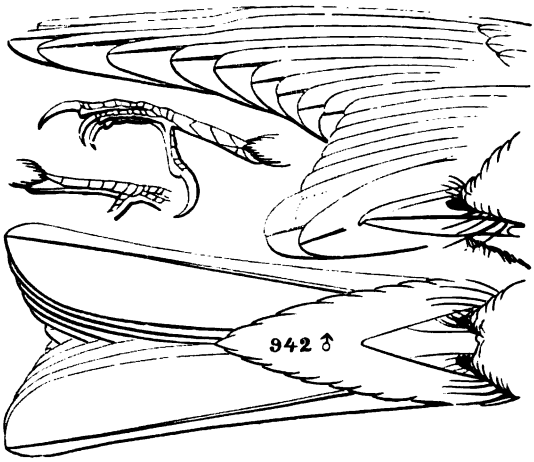
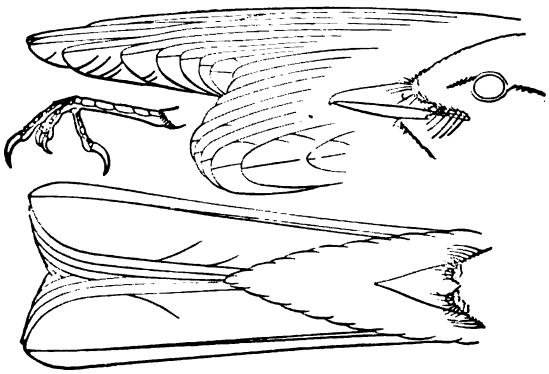
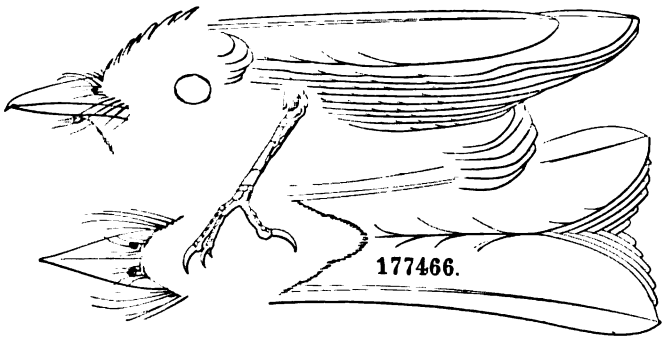


1. NUTTALLORNIS borealis.



2. MYIOCHANES virens.



3. BLACICUS caribæus.

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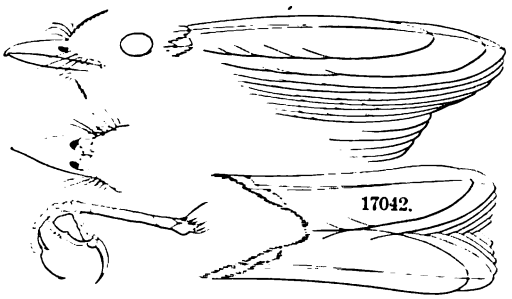
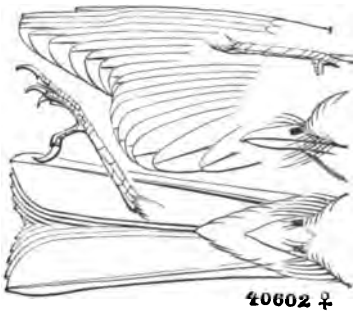


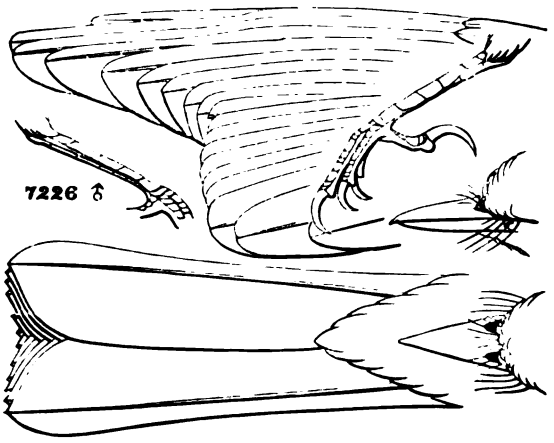
1. MYIOPHOBUS fasciatus.



2. EMPIDONAX pygmæus.

3. SAYORNIS nigricans.

4. EMPIDONAX virescens.



5. SAYORNIS saya.

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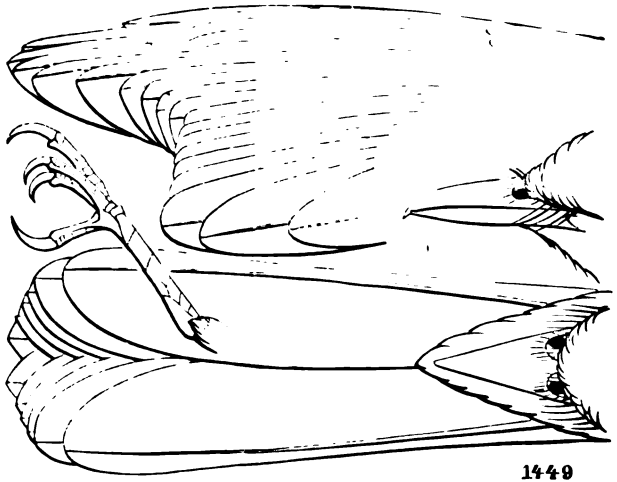
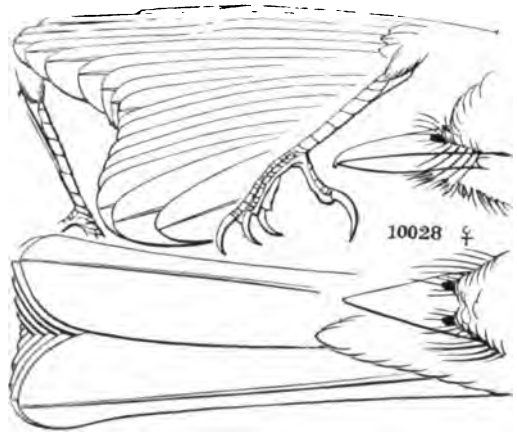
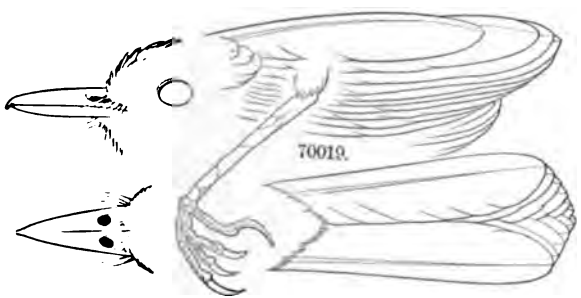


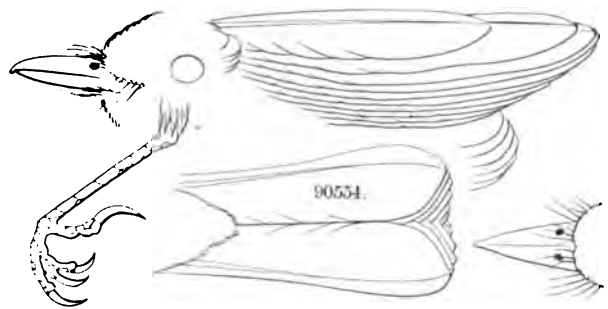
1. MYIARCHUS crinitus.



2. Myiarchus (ONYCHOPTERUS) lawrenceii.



3. NESOTRICCUS ridgwayi.



4. ERIBATES magnirostris.

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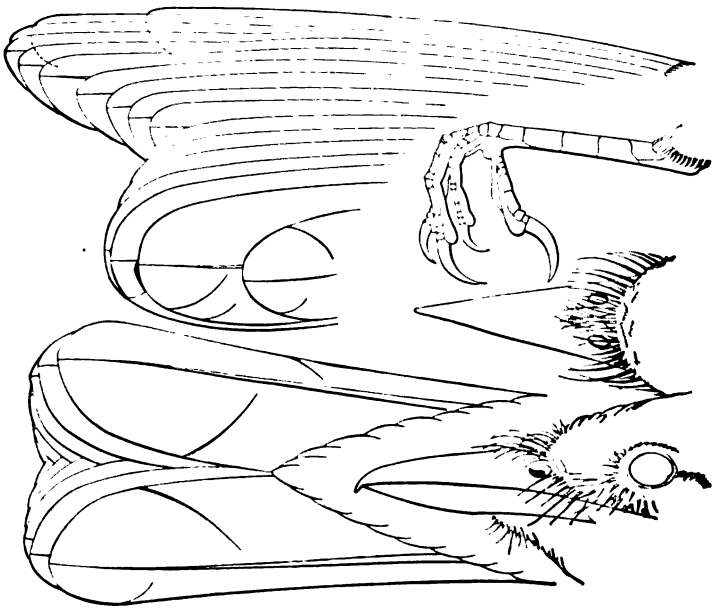
1. MYIODYNASTES luteiventris.



3. PITANGUS derbianus.

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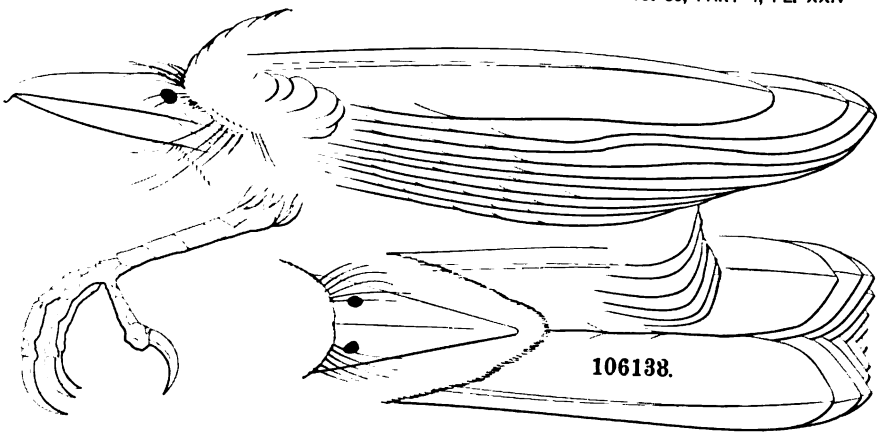
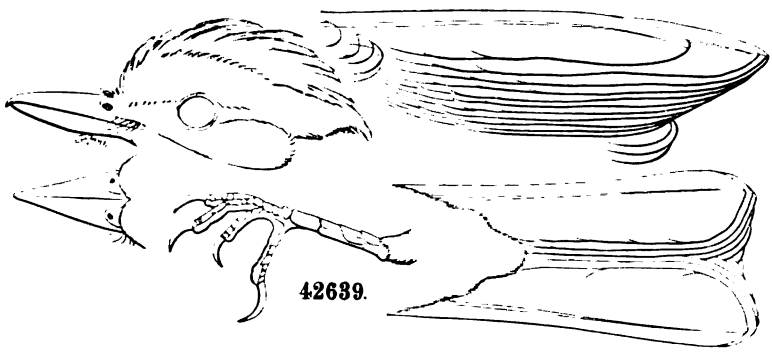
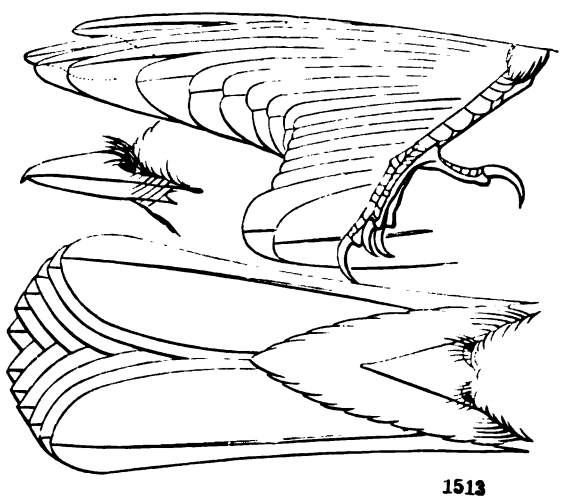


1. TOLMARCHUS taylori.



2. CORYPHOTRICCUS albovittatus.



3. TYRANNUS tyrannus.

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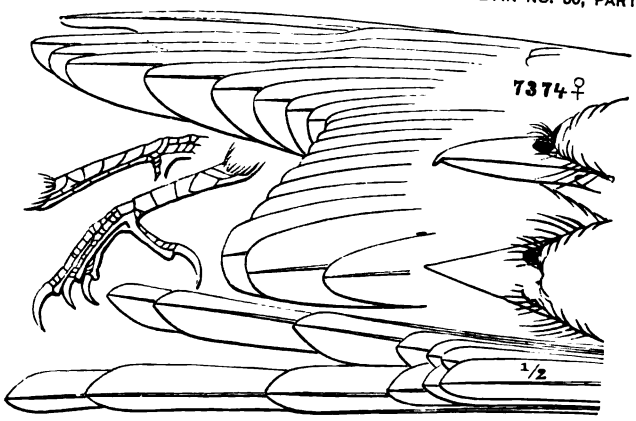
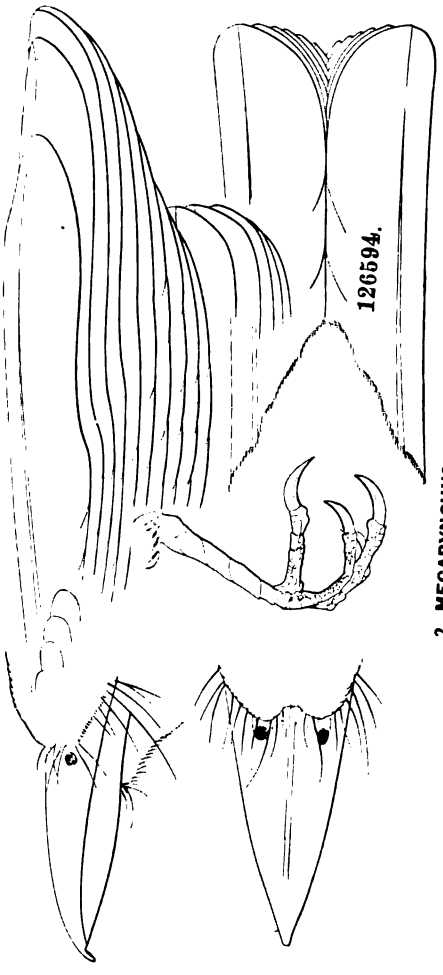
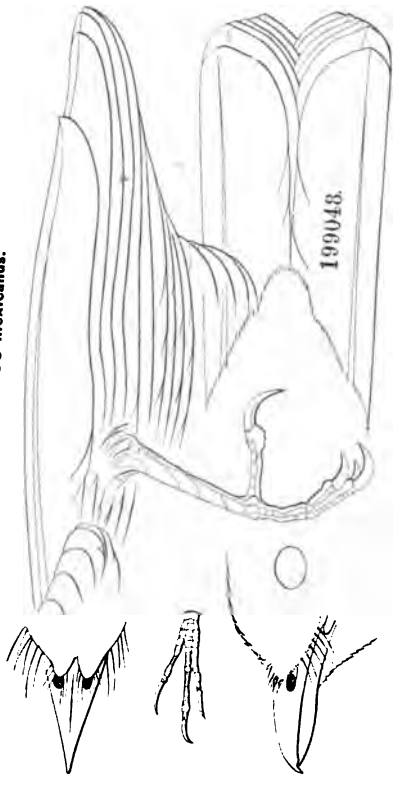


1. MUSCIVORA forficata.



2. MEGARYNCHUS mexicanus.



3. LANIOCERA rufescens.

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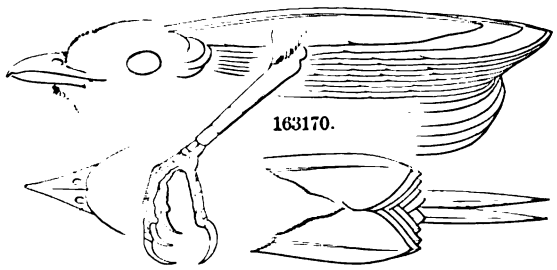
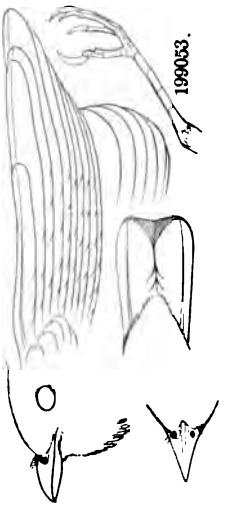
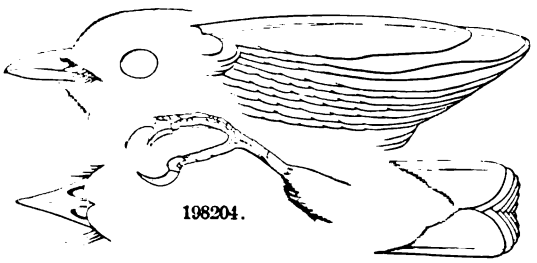


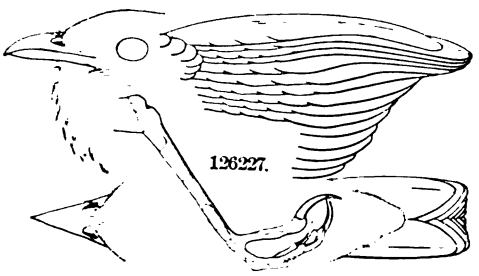
1. CHIROPRION lanceolata.



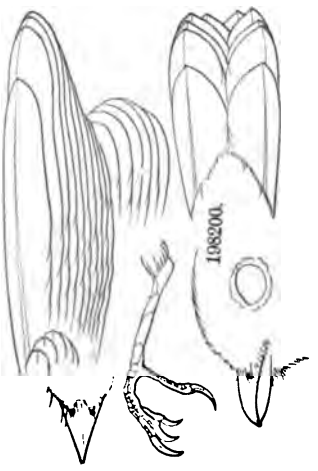
3. CORAPIPO altera.



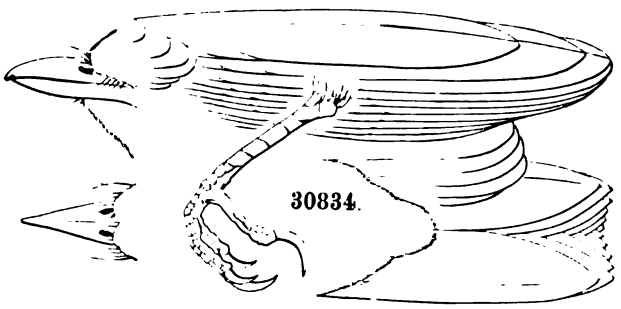
2. PIPRA mentalis.



4. MANACUS candei.



5. PIPRITES griseiceps.



6. SCOTOTHORUS verae-pacis.

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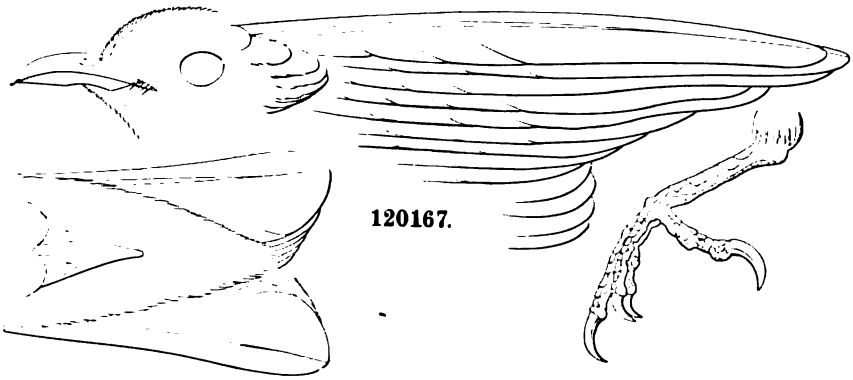
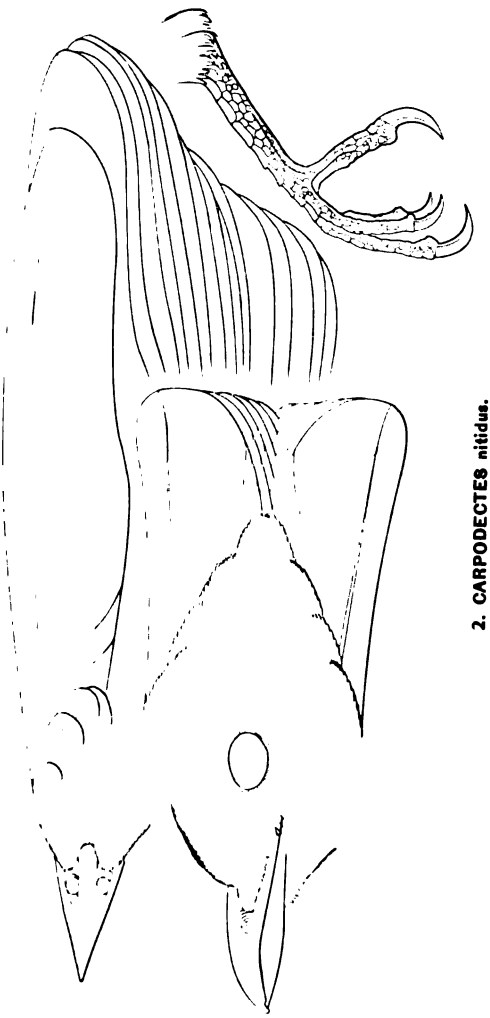


1. COTINGA amabilis.



2. CARPODECTES nitidus.

4. COTINGA ridgwayi.

3. MICROTRICCUS brunneicapillus.

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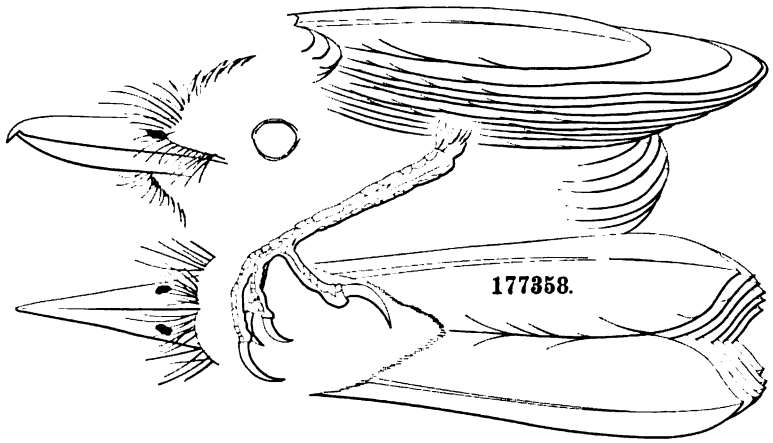
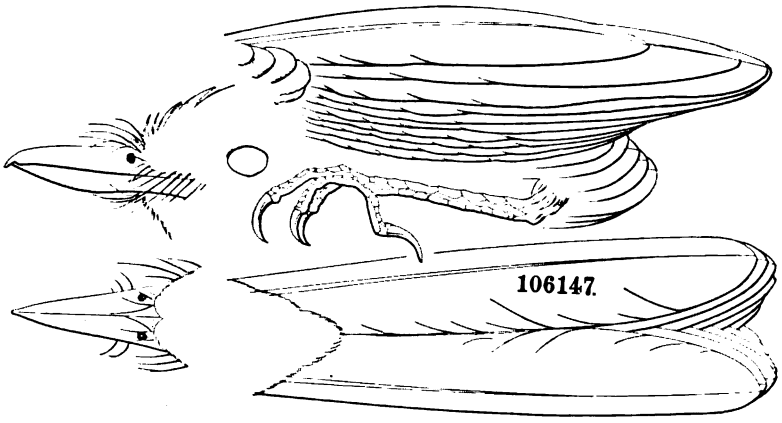
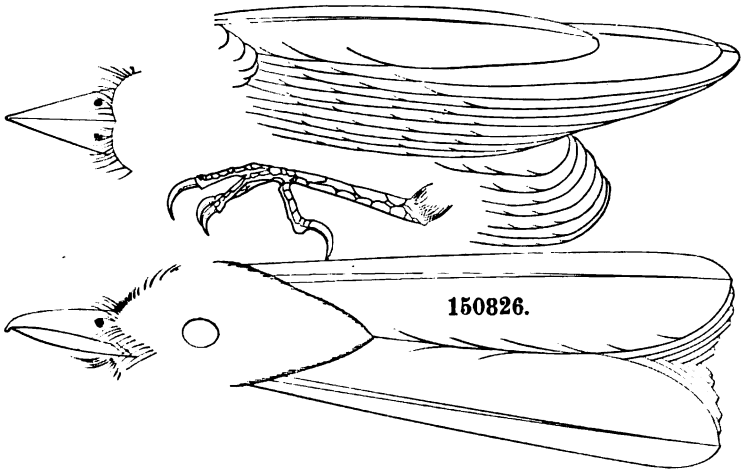


1. ATTILA citreopygus.



2. HYLONAX validus.



3. SIRYSTES albogriseus.

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1. ELAINOPSIS gaimardii.

2. LATHRIA unirufa.

4. TYRANNULUS elatus.

3. IDIOTRICCUS zeledoni.

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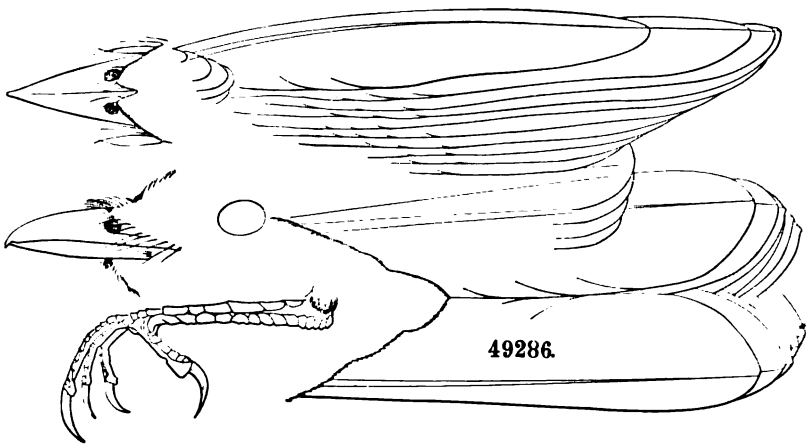
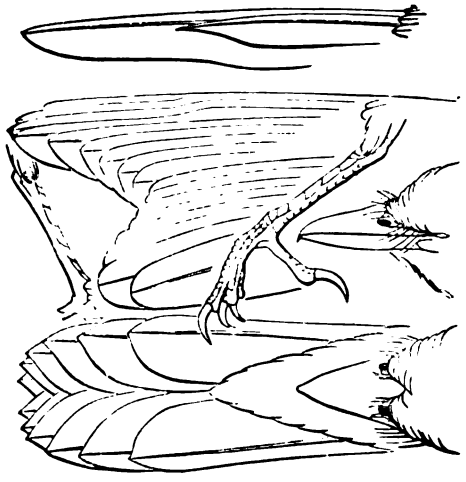


1. LIPAUGUS holerythrus.

2. PLATYPSARIS aglaiæ.



3. PACHYRHAMPHUS major.

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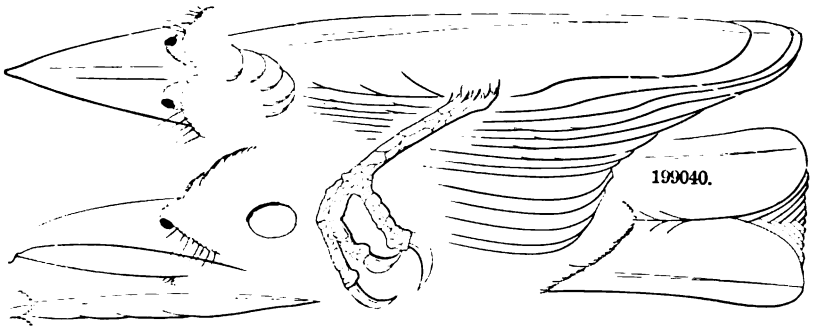
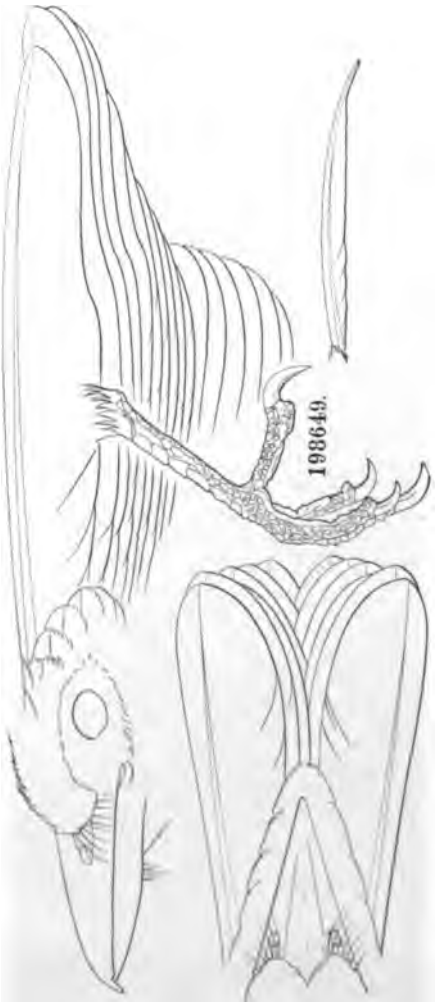


1. ERATOR albitorques.



2. TITYRA personata.

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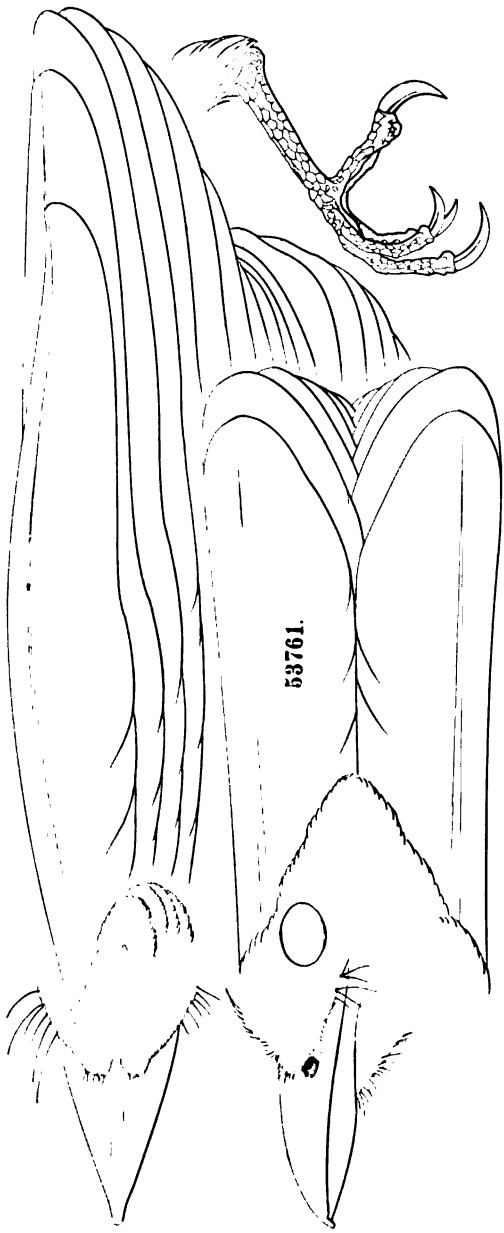

1. QUERULA purpurata.

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I. CEPHALOPTERUS glabricollis.

½ natural size.

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1. PROCNIAS tricarunculata.

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Date Due

~~22 Mar '49~~

~~26 Mar '49~~

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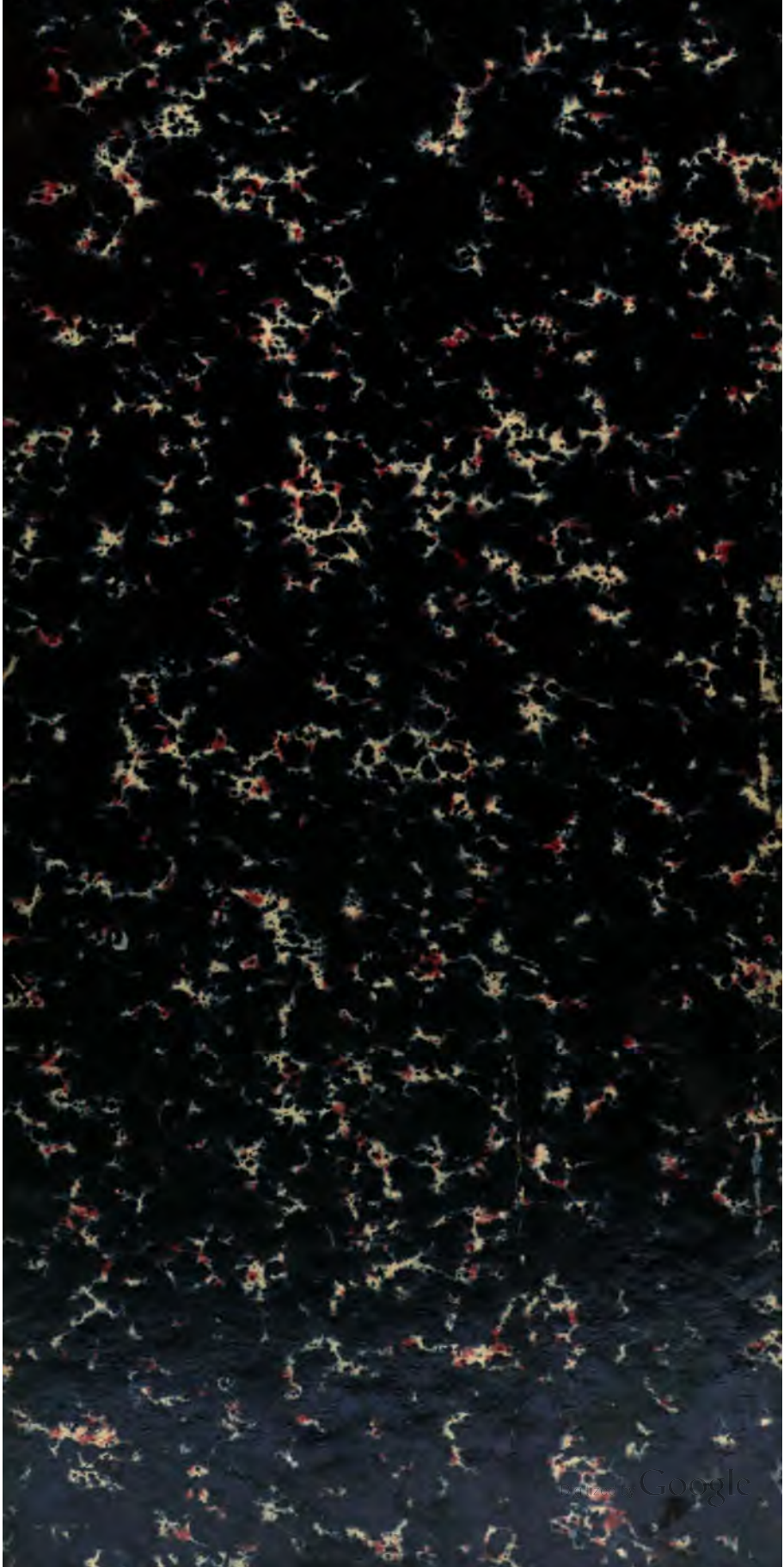
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